
REPORT
OF THE
TWENTY-THIRD EXHIBITION
OF
AMERICAN MANUFACTURES,
HELD IN THE CITY OF PHILADELPHIA,
FROM THE 18TH OF OCTOBER, TO THE 3D OF NOVEMBER, 1853,
BY THE
Franklin Institute,
Of the State of Pennsylvania, for the Promotion of the Mechanic Arts.
WITH
THE ADDRESS OF
GEORGE HARDING, Esq.



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REPORT
OF THE
Twenty-Third Exhibition
OF AMERICAN MANUFACTURES,
BY THE COMMITTEE ON EXHIBITIONS.

JOHN E. ADDICKS, ESQ., *Chairman.*

The Committee on Exhibitions respectfully present their Report of the twenty-third Exhibition of American Manufactures to the members of the Franklin Institute, under whose instruction it has been held.

The Committee do not deem it necessary to express any opinion on the usefulness of these periodical exhibitions of the progress of the mechanic arts, or their great advantage not only to the general public but to the artisans themselves, as that is now acknowledged by all who have experienced their benefit or have turned their attention to the matter, and those who may not have reflected on or view the subject in this light, we will not attempt to enlighten, as that has been most ably performed by George Harding, Esq., in his closing address to this present exhibition; and for the benefit of any who may not have had the pleasure of hearing this effort of our talented townsman, we have annexed to this report a copy of it, for which we ask but little in requiring their full acquiescence to its merits as well as thanks to the speaker for the favor.

To the Depositors we have some few remarks to make; while those who may be acquainted with the rules and regulations under which the Committee hold the Exhibitions, and are cognizant of the great difficulties to be overcome, will give us their confidence for fair ability and integrity of purpose to do justice to all, yet but few are aware of the nature of those difficulties and the exertion made use of to obviate them; of such we ask the perusal of the report of the previous Exhibition, which will in some degree give information, and to all we now would again repeat that our Judges are selected with great care in point of qualification and disinterestedness; and that we may have the benefit of all advice that can be attained, it has been the practice of this Committee to ask from the Depositors themselves the names of such gentlemen, who may be satisfactory to all parties concerned, and will serve as judges of those articles that will be referred to their decision, and if the depositors acting through their various sub-committees neglect this request, they certainly have less cause of complaint if they do not receive that satisfaction which they may deem appropriate.

The Committee with pleasure inform you that in almost every respect

this Exhibition is far in advance to any before held by the Institute; and such was the interest manifested by the public that, at the urgent solicitation of many persons, we were compelled to defer its close to several days beyond the time limited by the published Circular; this unusual action on the part of the Committee we are however satisfied, has met the approval of all interested.

It will be perceived by this report, that many of the articles exhibited have been recommended to be referred to the Committee on Science and the Arts of the Institute, for a more careful examination than the time allowed to the Judges would permit, and those depositors who may desire such examination are requested to apply to the Actuary for further information.

We have awarded for deserved merit, 31 third premiums, 37 second premiums, 108 first premiums, 7 recall first premiums, and have recommended to the Institute the approval of the award of 2 Gold Medals and 1 Recall Gold Medal for extraordinary claims.

The Committee respectfully render thanks to the Ladies and Gentlemen who have so kindly favored them with their judgment in regard to the merit of our Exhibition; also, the same is due to the gentlemen who have served on the Committee of Arrangement; and to the Press of our City we are much indebted for the use of their columns, which have been daily occupied with matter of interest to all who favor the welfare of the objects of this Institution.

The experience of the members of the Franklin Institute, who may have given to the progress of our Annual Exhibitions that attention which they so well deserve, must lead them to the same conclusion that your Committee are convinced of, which is, that our Institute is circumscribed in her ability to do that good which her position and the present age demands; there is no building in our City that will in any degree required, accommodate the wants of the Mechanic and Manufacturing Interest of our Country for the purpose of public exhibition, and without further argument or unnecessary explanation at this time, we bid our fellow citizens to prepare at an early date to erect such halls as shall amply display the pre-eminence of the American Mechanic.

I.—MODELS AND MACHINERY.

No. 2. Double Engine Hoisting Machine, by A. L. Archambault & Co., Philadelphia. This machine is an improvement on the original, for which a first premium was awarded at a former Exhibition. It has proved itself very useful in practice for hoisting, and other purposes. It has well sustained its reputation, and we award it *A Recall First Premium.*

No. 326. Dimpfel's Patent Fan Blower, deposited by Kisterbock & Son, Philadelphia. These blowers have been in use for many years, are well known, and generally and highly approved of. Having received a first premium at a former Exhibition, we now award them

A Recall First Premium.

No. 1. A Horizontal Steam Engine, Morgan & Orr, Philadelphia. Is finished in a very superior manner and works well; it has been in operation during the entire Exhibition, for the purpose of driving all the working machinery. It is highly creditable to the makers, and worthy of

A First Premium.

No. 6. Weighing and Packing Machine, G. D. Jones, maker, Jersey City, N. J., deposited by N. B. Harris & Co., Philadelphia. A very ingenious machine, well arranged, is fitted up in a superior manner, and appears to be well adapted to weighing and packing small packages of any ground material. We are informed that the present machine is capable of preparing four hundred packages per hour. For the ingenuity displayed, we award

A First Premium.

No. 63. American Lifting Pump, by H. Vivian & Co., Philadelphia. This pump is fitted with Polley's adjustable pistons, which is a very decided improvement upon the chain and washer pump. The india rubber pistons are made to fit the pump accurately, by turning them round upon a screw upon which they are mounted, causing the diameter to be increased so as to compensate for the wear. For the simplicity and excellence of this improvement, we award

A First Premium.

No. 118. A large lot of Bolts, Nuts, and Washers, by Hoopes & Townsend, Philadelphia. This is a very important article for machinists. The quality of the iron is good, and the work throughout is well executed. We consider them superior to any that have ever been exhibited in Philadelphia. We award

A First Premium.

No. 51. 30 Inch Fan Blower, by M. Alden, Philadelphia. Those having them in use highly approve of them as possessing all the good qualities of other blowers, working with less noise, and giving as strong a blast with less power. The Judges, upon these recommendations, have awarded a first premium, but H. P. M. Birkinbine being a member of the Board of Managers, and interested in the manufacture and sale of this blower, the Committee on Exhibitions, under their regulations, are compelled to withhold the award.

No. 66. Metallic Burial Cases, by A. & W. T. M'Clurg, Pittsburg. Light in weight, easily handled, and their material will of course render them very durable. They are very creditable specimens of casting, and workmanship in their finish; they can be afforded at a moderate price, and will no doubt answer their intended purpose extremely well. For propriety of design and ornamental finish,

A Second Premium.

No. 104. Water and Steam Valves, by S. Griffiths, Philadelphia. Best article of the kind that has been exhibited.

A Second Premium.

No. 74. Blacksmith's Bellows, by G. W. Metz, Philadelphia. Appears to be a serviceable article, and got up in a creditable manner. The nails and other iron work are galvanized, preventing the oxidation to which they would be liable when in use. For the application of galvanized iron,

A Third Premium.

No. 54. A Pair of Boat Sculls, by Isaac Wood, Philadelphia; neat, light, elastic, and well made.

A Third Premium.

No. 77. Gum Extracted Oil, by E. Baldwin, Philadelphia. It requires a more thorough examination to test its qualities than time will permit,

and is therefore recommended to be referred to the Committee on Science and the Arts.

No. 95. Sewing and Hemming Machine, by S. C. Blodget, Philada.

No. 129. Sewing Machines, by Grover, Baker & Co., Boston, deposited by S. C. Tucker, Philadelphia.

No. 21. Sewing Machines, by J. M. Singer & Co., New York.

No. 61. Stitching Machine, by E. DeCamp & Co., Newark, N. J., deposited by J. W. Denman, Philadelphia.

All the above sewing machines, for more careful examination in regard to their comparative merits, are recommended to be referred to the Committee on Science and the Arts.

No. 125. Patent Banding Pulley, by R. W. Parker, deposited by N. Barrows. Possessing novelty in its arrangement. Recommended to be referred to the Committee on Science and the Arts.

No. 100. Several Models of Government Vessels, by Francis Grice, Naval Architect, Philadelphia. Are beautiful models, and apparently well adapted to the wants of the Service; but for more critical examination are recommended to be referred to the Committee on Science and the Arts.

No. 111. Model Steam Engine, by N. Atherton, Philadelphia. This model is to show his plan of converting a reciprocating motion into a rotary. Recommended to be referred to the Committee on Science and the Arts.

No. 76. A Three Shuttle Power Loom, by J. T. Wood, Philadelphia. Appears to be well arranged for its purpose, well and neatly made, but of its peculiar merit we are not prepared to give an opinion at this time. Recommended to be referred to the Committee on Science and the Arts.

No. 3. Model Brick Press, by Wagner & Imlay, Philadelphia. This model has been previously exhibited.

No. 4. Force and Water Pumps, and

No. 5. Water Rams, by W. & B. Douglass, Middletown, Connecticut, makers, deposited by Hoffman, Leinaw & Oglesby, Philadelphia. Very fair articles of their kind, and sold at a moderate price.

No. 7. Model Bee Hive, by W. W. Green, Delaware County, Pennsylvania. Is constructed to take the honey from the hive without destroying the bees, and appears to be well adapted for the purpose.

No. 8. Spoke Turning Machine, by A. B. Carlin, Allentown, Pennsylvania, deposited by F. M. Carlin, Philadelphia. This machine is simple in its construction, but the Judges not having seen it in operation, cannot decide whether it is any improvement upon other machines for the same purpose.

No. 11. Model Strained Wire Fencing, by Stevens & Ninesteel, Philadelphia. Presents a very neat appearance.

No. 13. Model Self-Cleaning Sewer, by Joseph M. Truman, Philada. The Judges forbear expressing an opinion on the merits of this invention, as it will require to be tested by actual use.

No. 14. Model for Pulverizing Clay, by E. Davis, Philadelphia. The same remark will apply to this deposit in some degree.

No. 15. Self-Acting Oil Cup, by David Clark, Philadelphia. Possesses some novelty, and is worthy of trial.

No. 17. Water Rams, by N. & G. M. Kohl, Bucks County, Pennsylvania. Several things connected with these rams, we consider an improvement. The mode of putting together, regulating the lift of valve to suit the amount of water that supplies the ram, and peculiar arrangement of valve, all tending to render this ram more perfect.

No. 18. Model Gate, by Enoch Woolman, Damascoville, Ohio. Much ingenuity is displayed in the contrivance for opening and closing this gate without alighting from a vehicle. We consider it a very useful contrivance for gates leading out to a public road, and as it can be furnished at comparatively small expense, it is worthy of attention.

No. 20. Hatter's Leuring Machine, by A. L. Archambault, Philada. Is generally approved by hatters who have it in use, and appears well arranged for its intended purpose.

No. 22. Sample Slates, by Richard Griffiths, York County, Pennsylvania. A fair article.

No. 24. Paper Cutting Machine, by N. & G. Gavit, Philadelphia. Is got up in a very creditable manner, and appears well adapted for cutting paper to various lengths.

No. 25. Steam and Vacuum Gauges, by J. Lowe, New York, deposited by S. M. Fisk, New Brunswick, New Jersey. Are simple in their construction, and quite as accurate as the Ashcroft gauge. They may be safely recommended to the notice of the public.

No. 28. Hand Pressing Brick Machines, by Charles Carnell, Philada. Require no further notice, having received from the Committee on Science and the Arts the award of a Scott Legacy Medal.

No. 32. Model of Haguer's Levigating Mill, by Charles V. Hagner, Philadelphia. Well adapted to its purpose.

No. 38. Patent Slate Lined Refrigerator, by Evans & Watson, Philadelphia. Is considered superior, in point of cleanliness, to those lined with zinc.

No. 39. Blacksmith's Bellows, by T. R. Newland, Philadelphia. A very good article.

No. 40. Sail Boats, by R. G. Wilkins, Philadelphia. Fully rigged and present a very handsome appearance. The model is considered well adapted for speed.

No. 41. Model Sail Boat, by B. C. Weeks, Philadelphia. Worthy of notice for the neatness of workmanship and beauty of finish. A great variety of sailing yachts are exhibited, and many of them are creditable specimens of naval architecture, presenting forms that appear to promise speed and stability.

No. 45. Hydraulic Heater, by Leeds & Smith, Philadelphia. From testimonials exhibited this heater appears to give entire satisfaction to those who have it in use.

No. 47. Platform Scales, by E. T. Fairbanks & Co., St. Johnsbury, Vt., deposited by G. W. Colby, Agent, Philadelphia. Have received a premium at a former Exhibition for excellence of manufacture and accuracy; they require no further commendation, as their merits are well known.

No. 49. Lever Hand Brick Presses, by S. P. Miller, Philadelphia. Are well known for their good qualities, and are worked by single and double

levers, with apparent sufficient power; the single lever having fewer working parts, is less liable to get out of order.

No. 53. Lot of India Rubber Belting, Packing, &c., by Boston Belting Co., deposited by John Thornley, Philadelphia. A very large display, the quality of which appears fully equal to any former Exhibitions.

No. 56. Hemp Hose, by A. Stone, Philadelphia; suited for many purposes, especially for hot liquids, and is superior to the imported article.

No. 65. Copying Letter Press, by Chas. Evans, Philadelphia; a neat and well made article.

No. 67. Copying Letter Press, by W. Mann, Philadelphia; creditable work.

No. 69. Patent Piston for Steam Engines, by Touchstone & Clark, Philadelphia. This is a very ingenious contrivance for expanding the packing rings on the piston head, avoiding the necessity of removing the follower.

No. 75. Belting and Hose; by Wm. Eckfeld; a very creditable article, of good workmanship and material.

No. 86. Belting, by J. K. Earle, Worcester, Mass. A very good article, deserving commendation for the workmanship and material.

No. 29. Model Steam Engine by Thos. L. Shaw, Georgetown, S. C.

No. 58. Do. do., Gottlieb Glocker, Philadelphia.

No. 91. Do. do., A. C. Thomas, Do.

No. 92. Do. do., Charles Farciot, Do.

No. 93. Do. do., Wm. Mullikin, Do.

No. 110. Do. do., G. W. Anderson, Do.

Most creditable in design, and fair workmanship.

No. 87. Casting Machine, } The whole, a set of apparatus for making

No. 88. Planing Do., } Stereotype Plates, by Jason Mahan,

No. 89. Flask, } Philadelphia. Those having them in

use say they answer the purpose very satisfactorily.

No. 94. Double Acting Bellows, by A. P. Barnum, Boston, deposited by A. Hayden, Philadelphia; are of peculiar construction, and without expressing an opinion in regard to their merits, do not perceive any superiority.

No. 96. Model of Brick Machine, by S. Ustick, Philadelphia. The model has been in former Exhibitions; we do not perceive any improvement.

No. 99. Helmet for Submarine Armor, by H. Dutton, Philada. Has been deposited in former Exhibitions, and we are not aware of any improvement.

No. 108. Leather Belting, by Reese & Hoyt, New York, deposited by Billington & Emery, Philada.; a very fair specimen, well made, and good material.

No. 114. Model of the Burr Bridge, by W. W. Jeffries, Philada. Very neatly made.

No. 116. Model Fire Engine, by John P. Noble, Philada; neat and creditable.

No. 121. Air Pump for Submarine Armor, by George C. Howard, Philada., deposited by T. Franklin; well adapted for use.

No. 122. A Set of Tools, deposited by Smith, Watson & Co., from

various makers, consisting of lathes, planing machines, drill presses, slide rests, universal chucks, &c.; are finished in a suitable style for machine shops, and furnished at a moderate price, and of great convenience to machinists in want of ready made tools.

No. 318. Fire Brick, by Abner Marshall, Chester County, Penna., deposited by Coleman & Kelton, Philada. Well made and of good appearance.

No. 307. Fire Brick, by Charles J. Boulter, Philada. Not so handsome in appearance as others, but may be as good in quality.

No. 314. Fire Brick, by H. Graham & Co., Chester County, Penna. Very handsome in appearance.

For fire proof qualification the above three deposits can only be judged of by actual test. H. Graham & Co. have also on deposit, specimens of Porcelain Clay.

No. 317. Queen's Patent Portable Forge, by F. P. Flagel, Peeksville, New York, deposited by Neman & Warnick. A useful article for boiler makers, and on board of steam vessels.

II.—RANGES, STOVES, AND HEATERS.

The deposits in this department are of great variety and of general excellence. The following we deem worthy of particular notice:

No. 321. Tubular Oven and Hot Air Ranges, by Rand and Hayes, Philadelphia. Very superior for cooking and heating.

A First Premium.

No. 305. McGregor Heating Stoves, by James McGregor, Troy, N. Y., deposited by Neman and Warnick. A new and superior article for heating purposes.

A First Premium.

No. 323. New World Cook Stove, by Abbott & Lawrence, Philadelphia, adapted for the use of either wood or coal fuel. A new arrangement, and an excellent article.

A First Premium.

No. 320. Revolving Roaster, by Peters & Johnson, Philadelphia. This arrangement is now in operation in several of our large hotels. For its excellence and satisfactory performance,

A First Premium.

No. 334. Furnaces, by Weaver & Volkmar, Philadelphia. Their arrangement is well got up, and they are an excellent article.

A Second Premium.

No. 329. Governor Cook Stove, by West Philadelphia Stove Works, deposited by P. Mathieu, for burning wood or coal fuel. A new arrangement, well adapted, and good article.

A Second Premium.

No. 311. Culver's Hot Air Furnace, by David Culver, New York, deposited by Baker & Williams, Philadelphia. A well arranged and excellent article, worthy of special notice.

No. 309. Ranges, by Hill & Schoch, Philadelphia. Creditable specimens of manufacture.

No. 308. Hot Air Furnaces, by Hill & Schoch, Philadelphia. Of peculiar excellence in their manufacture.

No. 330. A variety of Stoves, by Warnick & Leibrant, Philadelphia, deposited by Hill & Schoch, Philadelphia; are well constructed, especially the Globe Stove, which is an excellent article.

No. 315. Portable Range, with Bath Boiler attached, by J. Feinour, Philada.; an excellent arrangement, which we recommend to public notice.

No. 326. Warm Air Furnaces, by J. Kisterbock & Son, Philada.; excellent, and for their superiority have received the Premium at a former Exhibition.

III.—COACH WORK.

No. 420. A Buggy Wagon, by J. S. Collins, Camden, N. J.; a finished piece of workmanship, superior to any article of the kind heretofore exhibited.

A First Premium.

No. 417. Falling top Carriage, by Zell & Co., Roxborough, Philadelphia Co., Pa.

A Second Premium.

No. 421. Buggy Wagon, by T. S. Woolston, Burlington, N. J.

No. 433. Buggy Wagon, by J. S. Collins, Camden, N. J.

No. 435. Jenny Lind Ogee back Carriage, by G. W. Wagner, Roxborough, Pa.

No. 443. No Top Carriage, by Zell & Co., Roxborough, Pa.

The above four deposits are all spoken of as fair and creditable specimens of workmanship.

No. 262. Kingston Goddard's Patent Carriage Axle, deposited by W. H. Wayne, Philadelphia, has received a First Premium at a previous Exhibition.

No. 432. Cart and Wagon Gears, by James Bayes & Co., Philadelphia; deposited by Abraham Tarr; can only form an opinion by its use.

No. 451. Phaeton with improved runners of spring steel, arranged to take the place of the wheels on the axles, thereby changing a wheel carriage into a sleigh.

"The small Phaeton exhibited at the last Fair of the Franklin Institute, was built in England, and purchased by me at the Great Exhibition of 1851, in London. The runners (the novelty to which I wished to call attention,) are arranged so as to change the vehicle into a sleigh at pleasure, without material loss of time, and without any change in construction, were made in this City under my direction. Such runners, made to take the place of the wheels on the axles, I do not remember to have seen in this country or anywhere out of Russia, where they are very generally applied to both close and open carriages of the heaviest kind, and very much facilitate their movements on the snow and ice. The runners exhibited are different from those in use in Russia, they being of wood, and very badly adapted to their work, from being much too short on the bottom or sliding part; whilst these are made of spring steel, with ample length of bearing on the snow. The first runners made in this manner and of spring steel, were made at our works near St. Petersburg, and answered the purpose very well in all respects. By using spring steel curved or grooved at the bottom, these runners may be made very strong, even with a single plate, and may have any desired strength given to them by increasing the number of plates. The grooved form at the bottom prevents the sleigh from sliding sideways when the roads are slippery. Such runners may be made at little cost by any ordinary smith, and I think would be well suited to this country, where snows

being seldom, and not lasting long, it is hardly worth while to keep a sleigh. They might be used to advantage by our fire engines and hose carriages during portions of the winter. The set made for my phaeton are much heavier than necessary for so light a carriage. I understand that this was remarked at the Exhibition. They need in no case be heavier, or as heavy, as the wheels which they are substituted for.

JOSEPH HARRISON, 433 Arch Street, Philadelphia.

November 3d, 1853.

To JOHN E. ADDICKS, Esq., Chairman."

IV.—IRON AND STEEL.

No. 255. Iron Car Axles, by A. & P. Roberts, Philada.; are well hammered, and judging from the shavings cut off in the process of turning, the iron appears to be of excellent quality. *A First Premium.*

No. 257. Galvanized Sheet Iron,	} N. M'Cullough & Co., Phila.;
No. 258. Do. Ship Work,	
No. 259. Do. Hoop Iron,	
No. 260. Do. Nails,	

all appear to be well coated with zinc, and equal to any specimens we have seen. The sheet iron is well adapted for roofing, and must be extensively used for that purpose, as experience has proved it to be more durable than tinned iron. This being a new branch of manufacture and deserving encouragement, we award *A First Premium.*

No. 265. Iron Castings, by Jones, Beebe & Co., New York; consisting of a Lion and a variety of Vases. They are very good specimens of castings, and the Vases of handsome design. *A First Premium.*

No. 252. Imitation Russia Sheet Iron, made up in Air-Tight Stoves, by W. Dewees Wood, McKeesport, Pa. The Iron being soft and malleable, it is capable of being worked to a sharp corner, and bears grooving and flanching equal to Russia Iron, and we take great pleasure in noticing the improved quality of this Iron. *A First Premium.*

No. 251. Pig Iron and Ore, by Etting, Graff & Co., Lewistown, Pa.; fair specimens in appearance, but not submitted to any test.

No. 261. Band, Hoop, Roll, and Square Iron, by Charles E. Smith & Co., Philada.; of fair quality and very handsomely made.

V.—AGRICULTURAL IMPLEMENTS.

No. 415. Atkins' Raking, Reaping, and Mowing Machines, by Jearum Atkins, Chicago, Ill.; deposited by Pascal Morris & Co., Philada.; the arrangement for self-raking, we believe to be novel, ingenious, and useful, and for the adaptation of this machine for its purpose, we award *A First Premium.*

It is also suggested that the inventor, for more critical practical examination, and extended report thereon, refer it to the Committee on Science and the Arts.

No. 402. Horse Power Corn Sheller and Separator, by Hedges & Reading, Frenchtown, N. J. *A First Premium.*

No. 449. Grain Separator and Winnower, by J. L. Booth, Cuyahoga Falls, Ohio, deposited by G. B. Turner. *A First Premium.*

No. 406. Horse Power Thresher and Cleaner, by John A. Pitts, Buffalo, N. Y.; deposited by R. T. Elkinton, Phila. *A Second Premium.*

No. 403. Portable Cider Mill, by C. W. D. Kulp, Montgomery Co., Pa.; deposited by F. B. Foley. *A Second Premium.*

No. 412. Manure Sower attached to Wheat Drill, by C. B. Rogers, Philadelphia. The Manure Sower is the invention of Dr. G. Emerson, of Philadelphia. *A Third Premium.*

No. 416. Seed Separator, by William Pierpont, Salem, N. J.; deposited by M. C. Godwin, Philadelphia. *A Third Premium.*

No. 447. Timothy Seed Sower, by T. Wells, Philada.; deposited by T. Stiles, Philadelphia. *A Third Premium.*

No. 418. Grain Separator for Millers, by J. L. Booth, Cuyahoga Falls, Ohio; on the same principle as deposit, No. 449.

No. 425. Portable Grist Mill, by G. W. Brown, Boston, Mass.; deposited by C. B. Rogers, Philadelphia.

No. 403. Horse Power Threshing Machine, by Gilbert & Rittenhouse, Norristown, Pa.

No. 409. Grain Winnower, by Jesse Roberts, Norristown, Pa.; deposited by Pascal Morris & Co., Philadelphia.

No. 413. Rice Drill, by C. B. Rogers, Philadelphia.

No. 423. Clover Seed Collector, by C. B. Rogers, Philadelphia.

No. 427. Corn Cob Mill, by John A. Pitt, Buffalo, N. Y.; deposited by R. T. Elkinton, Philadelphia.

No. 431. Self-Sharpening Feed Cutters, by Plympton & Aldrich, Phila.

No. 434. Johnson's Patent Sicut and Screening Machine, by J. M. M'Cutcheon, Philadelphia.

No. 445. Sausage Stuffer, by J. Warnock, Philadelphia.

All appear to be good implements of their respective kinds, and entitled to favorable notice.

No. 407. Double Plough, by George Buckman, Bucks Co., Pa.

No. 430. Moore's Patent Self-Sharpening Plough, by George Churnside, Wilmington, Del.

No. 424. Ploughs, by C. B. Rogers, Philadelphia.

All have the appearance of being good implements, but the Committee cannot venture to award distinctive premiums without trial.

No. 756. Garden Rakes, Hand Ploughs and Cultivators, by S. Bate-man, Blackwoodtown, N. J.; neatly made, and appropriate for their intended use.

No. 404. Leinau's American Fertilizer, by G. A. Leinau, Philada.

No. 441. Ammoniated Phosphate of Lime, by C. B. Rogers, Philada.

No. 442. Chemical Fertilizer, by do. do.

No. 448. Bone Dust, by do. do.

and other varieties of Fertilizers, chemically prepared, are exhibited, but the impossibility of determining their value by mere inspection, compels the Committee to forbear further notice.

VI.—HOUSEKEEPING ARTICLES.

No. 506. Preserves, Pickles, and Fruits, by Mrs. M. A. Blackwood, Burlington, N. J. For the Pickles, *A First Premium.*

No. 520. Preserves, Brandy Fruits, Candy Ornaments, and Pastry, by W. W. Kemp, Philada., deposited by W. Hammond, Philada.; excellent preparations. *A First Premium.*

No. 1476. Varieties of Chocolate, by W. Baker & Co., Boston, deposited by Grant & Twells; unexcelled. *A First Premium.*

No. 509. Ice Cream Freezer, by E. C. Seaman, Philada.; very superior. *A First Premium.*

No. 512. Spain's Patent Churn, by E. Spain, Philada.; an excellent article. *A First Premium.*

No. 502. Willow Baskets, by Mrs. E. M. Stretch; very superior. *A Second Premium.*

No. 510. Spices, by N. B. Harris, Philada.; very good. *A Second Premium.*

No. 516. Cedar Ware, by George Whitsell, Wilmington, Del., deposited by J. C. Adams, Philada.; superior work, hooped with galvanized iron. *A Second Premium.*

No. 513. Flour Renovator, by H. Bassett, Philada., deposited by A. D. Carroll; a new and useful article. *A Third Premium.*

No. 514. Mats, Baskets, &c., by Wild & Co., Mass., deposited by John Hallen & Co., Philada. The Mats are very good, and for a decided improvement in the Lemon Squeezers, *A Third Premium.*

No. 501. Preserves, by Mrs. Tyson, Philada.; very good.

No. 503. Willow Baskets, by Robert Swift, Philada.; strong and well made.

No. 504. Corn Brooms and Brushes, by John S. White, Pennsville, N. J., deposited by F. Newell; unusually neatly made.

No. 507. Oak Tub, first production by Thomas Dowling, Philada., an apprentice; worthy of praise for its neat make.

No. 508. Milk Bread, by J. Palmer, Philada.; excellent.

No. 511. Brooms, by F. Edson, Philada., deposited by Jeremiah Trout; fair article.

No. 515. Fancy Corn Brooms, by H. Moffit, Philada.; neatly made.

No. 517. Shower Baths, by E. L. Steever, Philad.; very well adapted.

No. 518. Prepared Wheat and Buckwheat Flour, by H. W. Hey, Philada.; on trial proved a good article.

No. 758. Housekeeping Articles, by Murphy & Yarnall, Philada.; a very large and beautiful display, in great variety, of articles for household use, deserving of much attention.

No. 1696. Willow Ware, by H. Coulters, Philada.; a variety of useful and fancy articles; the large basket with lids, and corner clothes basket, particularly worthy of notice.

VII.—COTTON GOODS.

No. 507. A large deposit of Cottonades, by Joseph Ripka, Philada. For style, color, quality, and beautiful variety, *A First Premium.*

No. 568. Cotton Ticking, by David Trainer, Marcus Hook, Pa., deposited by Farnum, Larned & Co., Philada.; the best ever exhibited.

A First Premium.

No. 554. Fancy Gingham, by the Glasgow Co., South Hadley Falls, Mass., deposited by Tingley, Caldwell & English, Philada.; a very good article.

A Second Premium.

No. 580. Tidy, Knitting, and Darning Cotton, by S. L. Stringfellow, Springfield, Del. Co. Pa.; a good article, but a little more care in putting it up is suggested.

A Second Premium.

No. 576. Long Cloths, by Wamsutta Mills, New Bedford, Mass., deposited by Wood & Erringer, Philada. These Sheetings have received premiums at former Exhibitions, and fully maintain their high reputation as superior to any other fabric of the kind produced.

No. 558. Cotton Ticking, by D. Lammott & Son, Delaware Co., Pa., deposited by Manderson & Lammott, Philada.; a good article, maintaining their former high character.

No. 566. Cotton Yarns, assorted, by Samuel Haworth, Belmont District, Pa.; a superior article.

No. 567. Cotton Goods, by W. Whitecar, Cedar Grove, Pa.; a good article.

VIII.—WOOLEN GOODS.

No. 555.	12	ps.	Cashmeres,	} Hamilton Woolen Co., South- bridge,
No. 563.	9	"	Ditto.	
No. 565.	3	"	Furniture Chintz Cashmeres, 13 colors,	
No. 556.	15	"	Delaines,	
No. 564.	37	"	Ditto.	

Massachusetts, deposited by H. Farnum & Co., Philadelphia.

The style of printing, the superiority of the coloring and texture of these goods fully sustain the reputation of the manufacturers. The printing is fully equal to that of any goods of similar texture of French or English manufacture. The Furniture Chintz Cashmere is a new article of American production, and decidedly the most beautiful printing produced. The Judges recommend to the Committee the highest premium for this deposit that they can ask of the Institute.

The Committee on Exhibitions, in accordance with the above report, have unanimously resolved to recommend to the Hamilton Woolen Co.,

A Gold Medal.

No. 581. 67 ps. Delaines, Manchester Print Works, Manchester, New Hampshire, deposited by J. C. Howe & Co., Philadelphia. The Judges desire to call particular attention to the great variety of this deposit, as well as the printing and texture of the cloths, and while they

feel bound to recommend the highest award to the deposit of the Hamilton Woolen Co., they would say that with a slight improvement in the colors, it will become extremely difficult to withhold from them an equal high recommendation.

The Committee on Exhibition award to this deposit, as highly deserving,
A First Premium.

No. 551. Petersham Coating, Union Manufacturing Co., Norwalk, Conn., deposited by Farnham, Kirkham & Co., Philadelphia. Very creditable goods.
A First Premium.

No. 552. White Flannels, by Geo. H. Gilbert, Ware, Massachusetts, deposited by Farnham, Kirkham & Co., Philadelphia; 2 packages all wool, and 2 packages silk and wool; they are much superior to anything of the kind ever exhibited.
A First Premium.

No. 573. Beaver Cloths, Bay State Mills, Lawrence, Mass., deposited by Lawrence, Stone & Co., Philadelphia; superior to anything of the kind ever exhibited.
A First Premium.

No. 573. Colored Sacking Flannels, Bay State Mills, Lawrence, Mass., deposited by Lawrence, Stone & Co.; highly superior goods, and colors very delicate.
A First Premium.

No. 574. Doeskins and Cassimeres, by Middlesex Woolen Co., Lowell, Mass., deposited by Lawrence, Stone & Co, Philada.; superior to any goods of the kind ever exhibited.
A First Premium.

No. 582. Black Broad Cloths, by Samuel Slater, Webster, Mass., deposited by Wood & Erringer, Philada.; are highly creditable to the manufacturers, and in color, finish, and fabric, strongly vie with French and Belgian goods of the same character.
A First Premium.

No. 561. Three-quarters Embroidered Woolen Linings, by David Oakes, New Jersey, deposited by Wm. Dulles, Philadelphia; decidedly the best goods ever exhibited, and reflect high credit on the manufacturers.
A First Premium.

No. 572. Cotton and Wool Gala Plaids, by the Bay State Mills, Lawrence, Mass., deposited by Lawrence, Stone & Co., Philada.; very superior in coloring and style, and fully equal to any foreign goods of the same kind.

No. 572. Forty Woolen Shawls, by the Bay State Mills, Lawrence, Mass., deposited by Lawrence, Stone & Co., Philadelphia. This lot embraces ten different styles of shawls, and while all are highly creditable, we feel bound to notice particularly, the mixed shawls, which, for beauty of fabric and delicacy of mixture, cannot be surpassed; three shepherd's mauds, or gentlemen's traveling shawls, quite excel anything of the kind ever exhibited, either American or foreign; six printed shawls also claim particular notice for beauty of fabric and printing; one long and one square shawl are the finest goods that ever came under our notice. The whole display, while it sustains the high reputation of the managers, fully entitle them to
A First Premium.

No. 575. Four Long Shawls, by James Roy & Co., Watervleit, N. York, deposited by Wood & Erringer, Philadelphia. These goods are unequalled in design, beauty of fabric, and richness of coloring, by any ever exhibited, either of French or American manufacture, and while we

regret that the manufacturers did not place in the exhibition a greater variety of their styles and qualities, we award them with high justice,
A First Premium.

No. 578. Woolen Yarns, by Moses Hey, Springfield, Pa., deposited by E. Hey, Philada.; best goods of the kind made in this country.

A First Premium.

No. 553. White Flannels, by the Ballard Vale Co., Andover, Mass., deposited by Farnham, Kirkham & Co., Philada.; lot No. 2, very creditable; lot No. 1, all wool, are very superior.

A Second Premium.

No. 577. Kersey Horse Blankets, deposited by Billington & Emery, Philadelphia; fair goods.

No. 579. Nine Specimens of American Wool, deposited by Coates & Brown, Philada. Four of these specimens are very fine, fully equal, if not superior, to any grown in this country, denoting a very pure Saxony stock, which alone can produce such wool; several other highly meritorious deposits were made in this department, but no notice can be taken of them, being placed in exhibition too late for competition.

IX.—UMBRELLAS.

No. 653. Silk Umbrellas, by W. A. Drown, Philada.; beautiful and well made, and deserving especial notice.

No. 1647. Walking Canes, by Geo. Doll, Philadelphia; a large and beautiful variety, deserving much attention.

X.—SILK GOODS.

No. 652. Silk Oil Cloth, by Wright & Son, Philadelphia; of new finish, superseding all others for durability; having received a first premium at a former Exhibition, we award to the depositor,

A Recall First Premium.

No. 1611. Kid Gloves, deposited to show the process of cleaning, by W. A. Read, Philadelphia; as a useful and economical branch of industry, we award

A Second Premium.

XI.—CARPETS AND FLOOR CLOTHS.

No. 651. Felt Carpet, by the Bay State Mills, Lawrence, Mass., deposited by Lawrence, Stone & Co., Philada.; worthy of especial notice; being of finer quality, better and clearer colors than any previously exhibited, we award

A Second Premium.

The Judges regret exceedingly the meagre display this season, and the apparent indifference manifested by the manufacturers of this description of goods, and their reluctance to exhibit them, when it is well known that they will compare favorably with any imported, for elegance of design and durability of fabric.

XII.—HARDWARE.

No. 708. Hay and Manure Forks, by Sheble & Lawson, Philada.; beautiful goods; superior to former Exhibitions, and the best in the present. *A First Premium.*

No. 718. Files and Rasps, by J. B. Smith, Philada.; fully equal to the English article. *A First Premium.*

No. 721. Hammers and Hatchets, by Charles Hammond, Philada.; superior goods, much better than former Exhibitions. *A First Premium.*

No. 732. Percussion Caps, by Walter Hicks, New York, deposited by Curtis & Hand, Philada.; fully equal to any imported and the best American make. *A First Premium.*

No. 739. Edge Tools, by Beatty & Ogden, Delaware Co., Pa.; a beautiful and very fine display. *A First Premium.*

No. 750. Illuminated Vault Covers, by T. Hyatt, New York, deposited by W. M. M'Clure & Brother, Philada. For general superiority for their intended use, *A First Premium.*

No. 722. Mill Saws, by Walter Cresson, Philada. For Circular Saws and small Tools, *A Second Premium.*

No. 723. Branding Irons, by John Franklin, Philada. *A Third Premium.*

No. 707. Handles and Sand Paper, by R. Boyd, Delaware Co., Pa.; Paper equal to former Exhibitions. For the Handles, *A Third Premium.*

No. 725. Graining Boards, by John H. Schrader, Philada. *A Third Premium.*

No. 712. Patent Door Spring, by H. Hochstrasser, Philada. For the adaptation, *A Third Premium.*

No. 702. Stair Rods and Step Plates, by Wiler & Billington, Philada.; equal to former Exhibition, for which they received a First Premium.

No. 704. Coach Wrenches, by E. L. Dixey, Worcester, Mass., deposited by W. S. Fletcher, Philada.; a fair article.

No. 705. Two cases of Cutlery, by G. Wheatcroft, Newark, N. J., deposited by Bowlby & Brenner, Philada.; a very beautiful deposit.

No. 706. Brace and Bits, by G. Wheatcroft, Newark, N. J., deposited by Ed. Robins, Philada.; a fair article.

No. 709. Small Coopers' Adze, by L. Williams, Philada., deposited by P. Coleman, Philada.; a neat and well finished article.

No. 711. Kimball's Patent Shovels, deposited by John Willard, Philada.; equal to former Exhibitions.

No. 715. Twine Reels, by J. L. Wiegand, Philada.; neat and useful article.

No. 716. Hay and Manure Forks, by Myers & Ervein; fair goods.

No. 717. Improved Knife and Scissors Sharpener, by James Young, Philada.; well finished article.

No. 719. Hoes, Cake Turners, &c., by S. Harper; good display.

No. 720. Rifles, Guns, and Pistols, by John Krider, Philada.; beautiful deposit.

No. 726. Improved Horse Shoe, by W. H. Towar, New York, deposited by J. G. Williams, Philada.; a new article.

No. 727. Planes, by B. Sheneman, Philada.; superior goods.

No. 728. Cocks, by Erastus E. Stebbins, Chicopee, Mass., deposited by Joseph Shea, Philada.; first rate article.

No. 731. Lot of Hardware of Malleable Iron, by Thomas R. Wood & Co., Philada.; a very large and useful deposit.

No. 733. Patent Screw Driver, by Switzer, Keyser & Co., Basil, Ohio, deposited by Curtis & Hand; a new article.

No. 734. Hardware, by B. Martin; very good articles.

No. 735. Taps and Dies, by A. Mayer, Philadelphia; equal to former Exhibitions.

No. 736. Stocks and Dies, do. do.; a new article.

No. 738. Moulding Planes, by S. H. Bibighaus, Phila.; good display.

No. 740. Axes, by Harvey Mann, deposited by Jas. Sharswood, Philada.; well polished.

No. 742. Registers and Ventilators, by Tuttle & Bailey, New York, deposited by Wm. M. M'Clure & Brother, Philada.; equal to former deposits.

No. 746. Metallic Letters, by F. Fuller, Jr., Providence, by the same depositor; well made.

No. 747. Silver Plates and Letters, by Wm. M. M'Clure & Brother, Philada.; fine display.

No. 748. Family Tool Rack, by the same depositors; useful arrangement.

No. 749. Mantel and Shelf Brackets, by W. S. Batchelder & Co., New York, same depositors; handsome display of useful articles.

No. 751. Planes, by E. W. Carpenter, Lancaster, Pa., same depositors; equal to former Exhibitions.

No. 752. Planes, by John Colton, Philada.; the largest assortment in the Exhibition, and good goods.

No. 753. Tailors' and Barbers' Shears and Skates, by Clarenbach & Herder, Philada.; beautiful exhibition.

No. 754. Planes, by S. H. Bibighaus, Philada.; good display.

No. 755. Machines for the use of Confectioners, by John Gardiner, Philada.; well made.

No. 757. Files, by Henderson Co. File Works, Weverton, Md.; a very fine and large display of files and rasps.

XIII.—TIN WORK.

The Committee take great pleasure in stating that there seems to be an increasing interest manifested on the part of our manufacturers in this department to exhibit superior work.

No. 1673. Invoice of Tin Ware for Table use, by Isaac S. Williams, Philadelphia; the material and workmanship are of superior quality, and the Judges recommend to the depositor the award of a first premium.

The depositor being a member of the Board of Managers, it is with regret that the Committee on Exhibitions are compelled, under their rules, to withhold the award.

No. 703. Water Coolers; by Manigle & Phipps, Philada.; well made, and ornamented in good taste. *A First Premium.*

1676. A lot of Tin Toys and Japanned Ware, by Hadden, Carl & Minot, Philada.; a large and beautiful variety, and of excellent workmanship of the kind. *A First Premium.*

No. 437. Tin Water Coolers, by Weymer & Brothers, Philadelphia; good articles.

XIV.—CABINET WARE AND UPHOLSTERY.

No. 837. Rosewood Furniture, by G. J. Henkels, Philada.; the depositor has received the first premium at several exhibitions for his beautiful displays of furniture, and the present one we consider so superior to any heretofore exhibited, that we award him *A First Premium.*

No. 805. Cedar Furniture, by Locker & Maugan, Philada.; the selection of the cedar veneering, its arrangement, and the workmanship of the whole of this beautiful deposit is fully entitled to *A First Premium.*

No. 813. Imitation Rosewood on Poplar, by John M. Snyder, Philada.; the best and most perfect imitation of rosewood ever exhibited. *A First Premium.*

No. 824. Enamelled Chamber Furniture, by Hart, Ware & Co., Philadelphia; the style and design of this invoice is very superior, and the beautiful enamelling the most perfect ever exhibited, and fully deserving *A First Premium.*

No. 826. Prismatic Turning, by Ellis & Brother, Philada.; each figure of the various specimens is of the most perfect character. *A First Premium.*

No. 820. Curled Hair and Glue, by C. Cumming, Philada.; the curled hair is a very superior article, and if it can be produced of like quality in large quantities, would be very desirable; for the excellence of the glue, we award *A First Premium.*

No. 812. Venetian Blinds, by R. W. Kensil, Philada.; excellent workmanship and taste throughout; the best exhibited, for which we award *A First Premium.*

No. 823. Spring Mattress, by W. H. Wright, Philada.; of excellent quality, being a spring edge folding mattress which operates at the joint with a slip hinge in proper movement; a decided improvement upon the old joint, for which we award *A First Premium.*

No. 807. Arm Chair, by John Kaufman, Philada.; of very superior workmanship. *A Second Premium.*

No. 810. Wardrobe, by Thomas P. Sherburne, Philada.; in design and workmanship excellent. *A Second Premium.*

No. 811. Show Case, by Fred. Hafner, Philada.; a superior and beautiful article. *A Second Premium.*

No. 804. Venetian Blinds, by B. J. Williams, Philada.; superior style of painting and excellent make. *A Second Premium.*

No. 814. Mahogany Counting House Desk, by John T. Hammitt, Philada.; excellent workmanship and well adapted.

No. 816. Reclining Chair, by the same depositor; deserving much credit, both for workmanship and use; for both deposits,

A Third Premium.

No. 822. Ottomans, Embroidered by Miss. E. Middleton; very beautiful.

A Third Premium.

No. 814. Venetian Blinds, A. Britton & Co., Philada.; fully entitled to

A Third Premium.

No. 801. Furniture Polish, by Samuel Rice, Philada.; highly recommended to housekeepers as a useful article for the improvement of old furniture, procurable at a moderate price; it has received a premium at former Exhibitions.

No. 802. Wooden Tea Caddies, by R. R. & A. Devrell, Philada.; of various sizes, very convenient, and in workmanship and finish creditable to the makers.

No. 803. Fancy Box, by P. Nannaker, Philadelphia.; entitled to much praise.

No. 808. Alms Chests, by J. Barnard, Philada., Sexton of St. Peter's Church; their strength is a high recommendation.

No. 809. Revolving Book Stand, by the same depositor; very convenient for the study.

No. 819. French Bedstead, by E. M. Davis, Philada.; entitled to notice.

No. 825. Self-Rocking Cradle, by D. Walker & Co., Newark, N. J., deposited by Hart, Ware & Co., Philadelphia.; this useful article is somewhat improved in style over a former deposit.

No. 821. Venetian Blinds, by J. & J. Bohrer, Philada.; very good workmanship.

No. 806. Spring Bed and Hair Mattress, by Charles Baum, Philada., which received a premium at a former Exhibition. They are still deserving of the same credit for excellence and durability, as well as moderate cost.

No. 818. Spring Mattress, by A. F. Porter, Philada.; a very excellent article, which we highly recommend.

No. 827. Venetian Blinds, by Wm. Morris, Philada.; painting and workmanship good.

No. 828. Venetian Blinds, by F. Ford, Philada., who received a premium at a former Exhibition. The present deposit shows improvement, and is entitled to much credit for the painting, trimming, and embellishments; the head piece is also very rich; their great cost may prevent their general use.

No. 519. Iron Furniture, by M. Walker & Son, Philada.; highly creditable to the makers; their construction is very good.

Several superior deposits in this department, some of great excellence, came too late for competition.

XV.—LAMPS AND GAS FIXTURES.

The largest display that has ever graced our Exhibitions, consisting, in great variety of size and style, of Chandeliers, Candelabras, Brackets, Girandoles, Aspergnes, Vestibule Lamps, Gas Pillars, Solar Lamps, &c., is deposited by Cornelius, Baker & Co., Philadelphia.

This is truly a magnificent exhibition of the advance and perfection arrived at by these well known manufacturers, and such is the great beauty, excellence, and taste of their designs, as well as their execution, workmanship, and finish, that they bid fair to be soon classed in the department of Fine Arts.

That we may arrive at a proper appreciation of the above judgment, we will refer to the previous contributions of this house, and we find that in our

6th	Exhibition, in 1830,	Christian Cornelius	received a	First Premium.
7th	"	1831,	"	First Premium.
8th	"	1833,	C. Cornelius & Son,	First Premium.
9th	"	1835,	"	First Premium.
10th	"	1838,	"	First Premium.
11th	"	1840,	Cornelius & Co.,	Third Premium.
12th	"	1842,	"	Favorb'e Notice.
13th	"	1843,	"	First Premium.
14th	"	1844,	"	First Premium.
15th	"	1845,	"	First Premium.
16th	"	1846,	"	Gold Medal.
17th	"	1847,	"	Gold Medal.
18th	"	1848,	"	High Notice.
19th	"	1849,	"	Gold Medal.
20th	"	1850,	"	Recall Medal.
21st	"	1851,	"	Franklin Medal.
22d	"	1852,	Cornelius, Baker & Co.	Special Premium.
23d	"	1853,	"	Special Premium.

Thus, it appears that at eighteen successive Exhibitions this establishment has invariably received our highest commendation or award; and, gratifying as this must be to the gentlemen comprising the present firm, still with greater pleasure will they look back to the founder of their house, CHRISTIAN CORNELIUS, a name that will long be remembered with pride by all who esteem mechanical skill and Philadelphia enterprise.

The Committee on Exhibitions unanimously resolved that this Report, with the names of the Committee attached, be engrossed, and delivered to Cornelius, Baker & Co. as their award.

No. 853. Hall, Vestibule, and Street Lanterns, by Charles Wilhelm, Philada.; of superior shapes and style, well made and finished.

A First Premium.

No. 302. Portable Gas Apparatus, by Stratton & Brother, Philada., for the use of private dwellings, factories, &c., which cannot have a connexion with public gas works. The apparatus is very compact, simple, well designed, easily put together, managed, or repaired. More care will, of course, be required in its management when the gas holders are in

close connexion with the building lighted; but as this article will mostly be used where space is not so valuable as in a city, the gas holders can easily be placed at any required distance. For its adaptation and its useful results, we award *A First Premium.*

No. 851. A pair of Fancy Cast Iron Lamp Stands, by Robert Wood, Philada.; of good design and well cast.

XVI.—MARBLE AND STATUARY.

No. 909. Centre Pieces, Statuary Marble, by Geo. Stauch, Philada.; deposited by J. Struthers & Son; pleasing in design, and the foliage well executed.

XVII.—GLASS AND CHINA.

No. 903. Porcelain Ware, by Kurlbaum & Schwartz, Kensington, Pa.; is the best American porcelain we have ever seen. The body is perfectly vitreous, and in this respect equal to the best French. The style of shapes is good, but not original; the edges, &c., are well finished, and, in fact, the deposit is nearly equal to the best French or English porcelain ware.

A First Premium.

No. 904. Japanned Earthen Ware, deposited by John Thornley, Philadelphia; a large and beautiful variety of useful and ornamental articles; the japanning is well done, and the decorating generally of very superior order; in this deposit there is an increased variety of useful articles over those in former Exhibitions, and considerable improvement in decorations. We award to the manufacturer

A First Premium.

No. 911. Decorative China, by C. Friese, Philada.; a creditable deposit of this branch of American industry.

A Third Premium.

No. 905. Rockingham Ware, by the Swan Hill Pottery, South Amboy, N. J.; fair exhibition, and worthy of notice; we hope for further improvement.

No. 909. Cast Glass for Dioptric Lenses for the use of Ships' Lanterns, &c., by the Brooklyn Flint Glass Works, Brooklyn, N. Y.; a beautiful specimen of glass ware, and worthy of notice; the adaptation will prove extremely useful.

XVIII.—SILVER WARE AND JEWELRY.

No. 977. A large variety and splendid display of Silver Ware, by Conrad Bard & Son, Philada.; the workmanship of these manufacturers is so well and favorably known, having been repeatedly reported upon at our Exhibitions, that we deem it needless to particularize in the present; their articles are equal, and in some respects superior, to former deposits; having received the first premium heretofore, we now award to them

A Recall First Premium.

No. 974. A beautiful deposit of Silver Forks and Spoons and Chased Tea Set, by Taylor & Lawrie, Philada.; being the second deposit made by this young firm, who in their peculiar department are not excelled by

any that have come under our notice; having received for their first deposit last year a first premium, we award to them for continued excellence,

A Recall First Premium.

No. 961. Miniature Silver and Gold Tea Set, by Lawrence Seckel, Philada.; an ingenious, neat and tasty specimen of work by an amateur.

No. 971. An assortment of Silver Articles, by W. H. Warner, Philadelphia; deserving of notice.

No. 970. Hair Work Jewelry, Breast Pins, &c., by C. Everest; neat, appropriate, and finished with much taste.

XIX.—SILVER PLATING AND BRITANNIA WARE.

No. 966. A large and beautiful display of Electro-Plated and Gilded Ware, by J. O. Mead & Co., Philada.; this is the finest display that has ever been made at any of our Exhibitions; for beauty of design, finished workmanship, and plating, we award

A First Premium.

The depositor added much to the interest of his exhibition by having a galvanic battery in operation, showing visitors the mode of electroplating.

No. 906. Britannia Ware, by Hall & Boardman, Philada.; very good workmanship; had the composition of the metal been superior, the depositor would have been entitled to a higher reward; for the workmanship,

A Second Premium.

No. 964. Electro-Plated Plumber's Work, and Plated Steel Knives, &c., by Spillard and Dodge, Philada.; a very fair exhibit.

A Second Premium.

XX.—MUSICAL INSTRUMENTS.

No. 959. String Instruments, by Joseph Neff, Philada.; comprising three violins, one tenor, and a violoncello; very superior instruments, comparing well with the best make, either at home or abroad.

A First Premium.

No. 973. Grand Piano, by Hallett, Davis & Co., Boston, deposited by J. E. Gould, Philada.; a very superior instrument, of fine touch, great beauty of tone and power, and in a high degree free from the usual faults of grand pianos.

A First Premium.

□ Square Pianos, by the same maker, and depositor, are worthy of notice; we call especial attention to one with æolian attachment.

No. 957. Double Six Stop Melodeon, by Bishop & Childs, Cleveland, Ohio, deposited by D. A. Warden, Philada.; of novel arrangement, two sets of keys, an excellent instrument, and superior of the kind to any that have come under our notice.

A Second Premium.

No. 952. Accordeons, by A. Faas, deposited by J. Servoss, Philada.; the usual good display of this manufacturer.

No. 955. Double Stop Five Octave Melodeon, by Tobin & Co., Nashua, N. H., deposited by D. A. Warden.

No. 956. One Double Stop Five Octave Melodeon, by Prince & Co., Buffalo, N. Y.; deposited by D. A. Warden.

No. 958. Four Octave Melodeon, same maker and depositor.

No. 963. Melodeons, by Carhart & Needham, New York, deposited by Hughes & Hale.

All of the foregoing instruments are good of their kind, but present no novelties in their construction.

No. 965. Organ, (4 stops,) by J. Buffington, Philada.; a pleasant toned instrument.

No. 954. Mandoline, by C. Rausch, Philada.; an exquisitely finished instrument.

No. 960. Seven Octave Square Piano, by Geo. Vogt, Philada.; of very good tone, and well made.

No. 962. $6\frac{3}{4}$ Octave Square Piano, by E. P. Grahame, Philada.; well made and very good tone.

No. 976. Great Trumpet Reed Work, by E. S. M'Collum; cannot be fully tested for the purpose of forming an opinion without being placed in an organ.

XXI.—FINE ARTS.

No. 1054. Composition Ornaments, by Samuel A. Turner, Philada. For great artistic merit and design, *A First Premium.*

No. 1057. Crystalotypes and Daguerreotypes, by M'Clees & Germon, Philada. The Daguerreotypes in this deposit are deserving of commendation for their general excellence; and the Crystalotype picture of the Moon by Mr. Whipple, of Boston, Mass., is highly interesting, it having been frequently attempted, but never successfully executed, heretofore, in this country. The colored Crystalotypes are highly meritorious for their superiority, and to those tinted with indian ink we award

A First Premium.

No. 1070. Large Daguerreotypes, by F. De B. Richards, Philada. For great superiority, *A First Premium.*

No. 1081. Model Bust of President Pierce, and

No. 1082. Model Bust of Professor Mütter, by P. Riners, Philada. For excellence of execution, *A First Premium.*

No. 264. Bronzed Castings, by Jones, Beebe & Co., New York. The figures are very well executed, and we believe them the first castings of the kind executed in this country. *A First Premium.*

No. 1080. Marine Algae, by J. M. Somerville, Philada. The depositor made his first display of these beautiful preparations at our last Exhibition, for which he received a First Premium; but as the present much exceed it in their variety, size, and perfection, we award him another

First Premium.

Mr. Somerville also exhibits a very simple and ingenious contrivance for the preparation of sea-mosses, which we recommend to be referred to the Committee on Science and the Arts.

No. 1105 $\frac{1}{2}$. Painted Window Shades, by G. L. Miller & Co. Philada.; very superior. *A First Premium.*

No. 1115 $\frac{1}{2}$. Mezzographs, by George H. Weeks, Philada.; taken from life; superior to any ever exhibited. *A First Premium.*

No. 902. Plaster Ornaments, by Thomas Heath, Phila., consisting of a great variety of Centre Pieces, Brackets, Figures, &c. The Centre Pieces are very beautiful in design and execution. *A First Premium.*

No. 1111½. School of Design for Women, T. W. Braidwood, Principal, No. 194½, Spruce street, Philada. The designs for Paper Hangings are very superior, and fully equal to any executed in this country, and from evidence in possession of the Committee from some of the principal manufacturers of Paper Hangings in our City, they are spoken of very highly for their artistic merit, and being generally superior, and in all respects equal to designs imported from France. Without referring more particularly to the many other beautiful and appropriate designs for other departments of manufacture, the Committee with great pleasure award to this Institution, for the high artistic merit of their design,

A First Premium.

No. 1001. Cabinet Portrait in Oil, by Veron Fletcher, Philada.

A Third Premium.

No. 1023. Oriental Architecture, by Thomas W. Richards.

A Third Premium.

No. 1056. Architectural Drawings, by Henry Sartain, Philada.

A Third Premium.

No. 1075. Architectural Design, by J. C. Hoxie.

A Third Premium.

No. 1642. Specimens of Imitation Gilding, by G. Pelman.

A Third Premium.

No. 1120½. Water Colored Talbotype Miniatures, by P. F. Cooper. Some of these specimens are extremely beautiful, and merit the highest praise.

No. 1112½. Stained Glass, by John Gibson; very beautiful, and equal to former Exhibitions.

No. 1098. Enameled Paintings, by R. Rowley & Co., Philada.; a large and beautiful display, interesting to the visiter and depositor, fully sustaining his reputation.

No. 1053. Engraving, by Alfred Jones, deposited by E. F. Dennison, "Patrick Henry delivering his Speech before the House of Burgesses in Virginia," beautifully executed.

No. 1008. Lithographs, by David Chillas, Philada. Many of the specimens in this deposit are highly meritorious, and the principal one, containing in the centre a portrait of Washington, is deserving of much praise, it having been printed by an apprentice in the employ of the depositor in fourteen colors.

XXII.—PHILOSOPHICAL INSTRUMENTS.

No. 1111. Globes, by Charles Copley, New York, deposited by W. H. C. Riggs, Philada. For general superiority,

A First Premium.

No. 1113. Railroad Safety Telegraph, by W. C. McRea, Philada. This invention has just received a highly favorable report from the Committee on Science and the Arts. Its chief merit consists in the fact, that owing to the alarm being given when the connexion is *broken*, the apparatus cannot fail, even when out of order, to give an alarm indication, which if false from disorder of the apparatus, can only cause a short delay, while if in order its indication is unerring. We award

A First Premium.

No. 115. Working Model of an Electro-Magnetic Boat, by W. C. & J. Neff, Philada. This ingenious production being in operation in a water tank 9 feet in diameter, was highly interesting to our visitors; that its operations may be more fully understood, we insert the description by the makers :

"The operation of the boat is as follows:—First, There is a wheel on the middle of the shaft $6\frac{3}{4}$ inches in diameter, having on its periphery eight armatures; these armatures are acted on by two electro-magnets, which are firmly secured in such a position that their poles come opposite the armatures, and within the thirty-second part of an inch of them, so that the wheel can pass them freely without touching. The magnets are beneath the deck, and one continuous wire surrounds them both, and the ends of the wire connected to the battery. The magnet in the bow of the boat is operating on the wheel so as to draw it down, while that in the stern is drawing it up; when the magnets have drawn the wheel as far as they can advantageously, the circuit is broken by means of a small wheel on the shaft, having eight points, which correspond to the armatures on the large wheel; the continuous wire is cut, and one end is fastened to the bearing which the shaft runs in, and by that means is connected to the small wheel; while the other is connected to a spring coming in contact with the points of the small wheel, by which means the circuit is closed, and the iron around which the wire is coiled becomes magnetic, and remains so until the armature is opposite the magnet, when by its own motion the circuit is broken, and remains so until the next point comes in contact with the spring, when the magnets perform in the same manner, and so on continuously."

We do not understand the depositors to claim any practical results for this mode of propelling vessels on an extended scale; but for the ingenuity exhibited, we award *A First Premium.*

No. 1137. Mathematical and Drawing Instruments, by C. T. Amsler, Philada.; in every respect satisfactory; in quality and price considered fully equal to those for which the depositors received a first premium at the last Exhibition.

No. 1120. Level and Transit Instrument, by Hartman & Saxe, Philada.; equal in workmanship and action to any made.

No. 1132. Lightning Rod Points, by E. S. Mentzer, Philada.; very well made.

No. 1104. Philosophical Instruments, by W. H. Pile, Philada.; deserving of commendation for good workmanship and reasonable price.

No. 1129. Self-winding Telegraph Register, by James J. Clark, Philada. This apparatus was exhibited last year, and referred to the Committee on Science and the Arts; and the Committee on Exhibition, upon their Report, which was of the most favorable nature, awarded a first premium. We renew the same opinion of the present deposit.

No. 1133. Stereoscope, by F. De B. Richards, Philada. The ingenious modifications made by the depositor were made the subject of a favorable Report by the Committee on Science and the Arts, and the Committee on Exhibitions awarded the depositor upon said report a first premium at the last Exhibition. A revolving pedestal has been added,

which brings the objects to be examined more readily before the observer; the whole arrangement is deserving of great commendation.

Clocks of various designs and patterns are exhibited by the following depositors, the value of which must be tested by *time*!

No. 1107. By J. C. Brown, Bristol, Conn.; inlaid with pearl.

No. 1108. By Forestville Hardware and Clock Co., Forestville, Conn., deposited by Brown, Smith & Co., Marine and Mantel Clocks, Iron, Porcelain, and Wood Cases.

No. 1123. By Eli Holden, of various makers.

The following articles are recommended to be referred to the Committee on Science and the Arts:

No. 1102. Patent Magnetic Machine, by D. Davis, Boston, deposited by W. W. Weeks.

No. 1122. Galvanic Batteries, by Dr. S. B. Smith, New York, deposited by W. H. Hazzard.

No. 1124. Magneto-Electric Machine, by C. Sanford, New York, deposited by Bullock & Crenshaw.

No. 1131. Watch Movement, by Eli Holden, Philada.

No. 975. Double Rollary Escapement Watch, by J. & N. Develin, Philada.

XXIII.—SURGICAL INSTRUMENTS.

No. 1126. Silver Surgical Instruments, by John S. Warner, Philada. They fully sustain the high reputation of the maker, and are worthy of much commendation for general workmanship and finish, and for which we award

A First Premium.

No. 1115. Instruments for the Cure of Stammering, by Robert Bates, Philada.; exceedingly ingenious, and founded upon true physiological principles. For a full investigation of these principles, as well as a report upon successful treatment of those afflicted with stammering, we recommend the deposit to be submitted to the Committee on Science and the Arts.

No. 1134. Artificial Leg, by B. Frank. Palmer, Philada. The depositor having already received two First Premiums from the Committee, and the Scott Legacy Medal from the Committee on Science and the Arts, we deem no further award necessary. The Judges remark, that they believe it to be the best Artificial Leg known, and far in advance of any other form that has ever come under their notice.

No. 1127. Surgical Instruments, by D. Kolbe, Philada.; superior to any heretofore exhibited by this maker.

No. 1482. Mechanical Cups and Leeches, deposited by Harris, Hale & Co., Philada.; a compact and convenient contrivance, and are useful under circumstances where the ordinary means are inadmissible.

No. 1117. Trusses and Surgical Apparatus, by Dr. M'Clenachan, Philadelphia.

No. 1118. Supporters and Bandages, by Mrs. Dr. M'Clenachan.

No. 1119. Surgical Apparatus, by B. C. Everett, Philada.

No. 1130. Banning's Body Brace, by Cooley & Danforth, Middletown, Conn., deposited by C. H. Needles.

The above four deposits are generally well contrived, and well adapt-

ed under certain circumstances; but the Committee must decline making a special report on their usefulness.

XXIV.—DENTAL INSTRUMENTS AND DENTISTRY.

No. 1125. Dental Gold Foil, by Chas. Abbey & Sons, Philada.; a very superior article. *A First Premium.*

No. 701. Dental Files, by J. M. Earnest, Philada.; of various shapes, well adapted to dental purposes; of their temper and quality we are unable to speak positively from actual test, but from their appearance, and reliable information, we award *A Third Premium.*

No. 1116. Artificial Teeth, Beading Machine, and Forceps for Plate Work, by J. G. Ambler, New York, deposited by J. K. Nichols; well adapted for the purposes designed, and for a new, simple, and ingenious method of attaching spiral springs, we award *A Third Premium.*

No. 1136. Artificial Teeth, by Henry Townsend, West Philada.; in this lot we notice some specimens of good carving.

No. 1135. Artificial Teeth, by C. T. Goodwin, Philad.; among which we find three full length molars, an excellent imitation of the natural tooth.

No. 1128. Artificial Teeth, by James B. Candy, Philada.; of antique and recent artificial dentures.

No. 1105. Artificial Teeth, by Ed. McLaughlin, Philadelphia.

No. 1106. Artificial Teeth, by W. C. Eastlack, Philada.; both fair specimens.

No. 1101. Tooth Wash and Tooth Powder, by R. B. Da Costa, Phila.

No. 1110. Dentifrice, by Thomas S. Weigand, Philadelphia.

No. 1114. Tooth Wash, by F. Zerman, Philadelphia.

Of which deposits the Committee decline giving an opinion.

XXV.—BOOKS, STATIONERY, BOOK BINDERS' WORK AND TOOLS.

No. 1152. Mann's Copying Paper, by Wm. Mann, Philada.; is regarded by the Committee, who speak from experience, as a very superior article, combining strength, distinctness of copy, and peculiar adaptation for duplicate copies. *A First Premium.*

No. 1154. Book Binders' Stamps, by Gaskill, Copper & Fry, Philada.; the workmanship of which, both in regard to beauty of design and mechanical skill in execution of finish, is considered equal, if not superior, to any thing of the kind done in this country; it is within the knowledge of the Committee that Boston, New York, and Baltimore, are largely supplied from this establishment, which corroborates the above opinion.

A First Premium.

In connexion with the above deposit, the Committee notice impressions on muslin, embossed in gold, from the above plates, by Thomas Amies, as being exceedingly beautiful, and evincing a high degree of skill in their use.

- No. 1153. Blank Books, by T. E. Chapman, Philadelphia.
 No. 1160. " " " W. F. Murphy, "
 No. 1161. " " " A. S. Adams & Co., "
 No. 1151. " " " Moss & Brothers, "
 No. 1156. Book Binding, " Henderson & Co., "
 No. 1157. " " " Phillips & Sampson, Boston, Mass.
 No. 1155. Blank Paper, " Carson & Brothers, Dalton, "
 No. 1153. Bonnet Boards, " W. P. Bechtel, West Philadelphia.
 No. 1159. Marble Paper, " Williams & McEwen, West Philada.

After a careful examination of the above deposits, the Committee are of unanimous opinion that they are generally creditable to the makers, but do not evince much improvement over former Exhibitions; yet, at the same time, in regard to the blank work by T. E. Chapman, although not equal to some work of the same character known to the Committee, still, being superior to any in the present Exhibition, and as an incentive to the attainment of greater excellence in future, they award

A Third Premium.

XXVI.—LEATHER.

No. 1203. Skirting and Russet Leather, by Jacobus & Utter, N. J.; deposited by William Musser & Co., Philadelphia. Excellent tannage and superior finish.

A First Premium.

No. 1205. Slaughter Sole, by G. S. Downing & Son, Wilmington, Del. Superior tannage as exhibited by the solidity of the leather, perfect filling and fineness of grain.

A First Premium.

No. 1223. Spanish Sole, by W. McLean, Franklin County, Pa., deposited by Pritchett, Baugh & Co., Philadelphia. Excellent management and superior tannage.

A First Premium.

No. 1220. Skirting and Shaved Harness, by Scattergood & Bousted, Philadelphia. The skirting deserving of notice for excellent management, and the shaved harness being a very superior article, we award to it

A First Premium.

No. 1201. Slaughter Sole, by B. A. Crawford, Philadelphia. An excellent specimen of tannage.

A Second Premium.

No. 1228. Skirtings, Trimmed Harness, Splits, and Buff Butts, by Samuel S. Armstrong, Philadelphia. The skirting is deserving of notice for much skill and workmanship. The splits exhibit a perfect specimen of the kind, though not superior to former deposits of this maker. The butts are very creditable, and the trimmed harness, both for tannage and finish, present great excellence. For the trimmed harness,

A Second Premium.

No. 1204. Slaughter Sole, by Peterson & Mustard, Smyrna, Del., deposited by Alexander Peterson, Philadelphia. An excellent specimen of tannage, fully deserving

A Third Premium.

No. 1203. Heavy Slaughter Sole, by C. B. Williams, Philadelphia. Very creditable tannage and manufacture, for which it is deserving of notice.

No. 1224. Spanish Sole, by William Peale, Perry County, Pa., de-

posited by Pritchett, Baugh & Co., Philadelphia. Creditable to the manufacturer.

No. 1225. Spanish Sole Butts, by Jacob Hoffman, Juniata County, Pa., deposited by Pritchett, Baugh & Co. Deserving of special notice for management and tannage.

No. 1214. Calf Skins, by H. M. Crawford & Co., Philadelphia. Superior tannage, and equal to any former deposit by the same manufacturers.

XXVII.—MOROCCO.

No. 1206. Kid and Grained Leather, by Samuel Buck, Philadelphia.
A First Premium.

No. 1207. Dyed Black French Morocco, by G. S. Adler, Philadelphia.
A First Premium.

No. 1209. Bronze Morocco and Colored Sheep Roans, by E. A. Smith, Philadelphia.
A First Premium.

No. 1218. Colored Morocco, by Charles Baker, Philadelphia. Deserving of attention as creditable work.

No. 1219. Patent Goat Skins, by George S. Adler, Philadelphia. Should be particularly noticed as highly creditable.

No. 1232. Gold and Silver Skins, by J. McMinn, Philadelphia. Their merit is deserving of attention.

No. 1212. Morocco and Tampico Leather, by Daniel Eveland, Philadelphia. A fair article.

XXIX.—SADDLERY AND HARNESS.

No. 1230. Saddles and Harness, by Lacey & Phillips, Philada.; the side, as well as the men's saddles, are very excellent in style and workmanship. The makers are entitled to much credit for the execution of the work and careful selection of good material; a superior set of double harness with mounting of Princes's metal, very beautifully finished, displays superior taste and skill. The depositors having received a first premium for harness at the last Exhibition, in testimony of their continued excellence, they now receive the award of
A Recall First Premium.

No. 1233. Engraved Plates for Embossing Tug and other Loops for Harness, by E. G. Chormann, Philada.; are very tastefully designed and well executed; the great saving of time by their use, and the low price at which a set can be furnished, will no doubt bring them into general use with the trade.
A Second Premium.

No. 1234. Embossed Flaps and Skirts for Riding Saddles, by the same depositor; similar and of equal merit to his former deposits.

No. 1227. Saddle and Harness, by W. U. Moyer, Philada.; a very well finished saddle, and parts of a set of harness with quilted stitched work, very creditably executed.

No. 1217. Cowhide Whips, by C. Cummings, Philada.; mounted with metal bands, presenting a pretty appearance, and the durable character of the material will justify their preference over the ordinary thread-covered riding whip.

XXX.—TRUNKS AND CARPET BAGS.

No. 1215. Trunks, by James E. Brown, Philada. Two sole leather steel spring trunks; one for ladies' use with a band-box inside, a convenient arrangement; the other a gentleman's trunk in the ordinary style, and neatly finished.

No. 1221. Trunks, by A. L. Hickey & Co. One style, a drawer, the other a folio trunk, highly finished, and conveniently arranged, and joined with good work.

No. 1211. Trunks by E. P. Moyer, Philadelphia.

No. 1226. " " Thomas W. Mattson "

No. 1213. " " A. I. Sanson, "

All deposit trunks of various styles, that will compare favorably with the manufacture of this or any other City.

The general deposit appears to be selected from the warerooms of the makers, as they do not bear the impress of any extraordinary effort for Exhibition, only for which they are entitled to more praise.

The Valices and Carpet Bags, of which a large assortment is on deposit, are generally very good, but do not deserve any more special notice.

XXXI.—BOOTS AND SHOES.

No. 1314. Men's Boots, by L. Benkert, Philada.; of very superior quality. *A First Premium.*

No. 1310. Ladies' Gaiter Boots, by G. Torode, Philada.; of very superior make and apparent durability. *A First Premium.*

No. 1306. Welt Buttoned Ladies' Gaiters, by A. R. Dehaven, Phila.; for workmanship and style, *A Second Premium.*

No. 1313. Men's Boots and Shoes, by George Brueder, Philada.; for the buttoned shoes and cork sole boots, *A Second Premium.*

No. 1322. Men's Boots, by Peter Conrad, Philada.; very good quality. *A Second Premium.*

No. 1316. Ladies' Shoes and Gaiters, by Mrs. Doerer, Philada.; fair work.

No. 1309. Cork Soles, by J. K. Githens, Philada., deposited by Johns & Payne; creditable.

No. 1308. Ladies' Lasts, by G. Munroe, Philada.; a lot of fair ordinary lasts.

No. 1304. Miniature Lasts, by John C. Huhn, Philada.; pretty specimens.

XXXII.—HATS, CAPS, AND FURS.

No. 1317. Hats, Caps, and Furs, by Chas. Oakford, Philada.; a large and beautiful display of ladies' furs, sleigh robe, and hats and caps, all excellent throughout; the sleigh robe deserves high credit for workmanship and design; a gentleman's silk hat covered with black silk velvet under the brim, engaged the particular notice of the Judges; it is faultless,

and presents the perfection in silk hat making, and it is difficult to conceive how such workmanship can be excelled. The ladies' bonnets, as well as the gentlemen's military and civil hats, are all of superior workmanship, and deserving of high praise. To the velvet lined brim silk hat, we award

A First Premium.

No. 1301. Hats, by Sullender & Pascal, Philada. In this beautiful collection of silk hats, we notice two with narrow plush bands which deserve especial notice for general excellence and neatness of finish; a long napped beaver hat is also deemed faultless. For the two narrow plush band hats, we award

A First Premium.

No. 1312. Silk Hats, and Children's Fancy Beaver Hats, by the New Hat Company, Philada. The hats are well made and neatly finished; the children's fancy beavers are fine in quality, trimmed in good taste, excepting those displaying common jewellery, which is misplaced, and not in keeping with the taste otherwise manifested. For the children's beavers, we award

A First Premium.

No. 1320. Sleigh Robes, by L. Fishblatt, Philada.; a large collection made up of various furs in different designs; very superior in design, taste, and workmanship, showing the maker to be an excellent furrier.

A First Premium.

No. 1307. Silk Hats, by T. S. Miller; are worthy of commendation for style, make, and finish.

No. 1315. Hats, Caps, and Children's Fancy Beavers, by Pfeil & Brothers, Philada. All have the appearance of being well made and neatly finished; the silk hats have great similarity to the deposit of No. 1307.

No. 1318. Silk Hats, Caps, and Children's Fancy Beavers, by H. B. McCalla, Philada.; are all very fine specimens, and creditable to the depositor.

The whole exhibition in this department has never been excelled, if equalled, by any former one. There is a manifest improvement throughout, and if the continuance of such excellent workmanship is sustained, it must place the hat trade of our City in a position from which they need not fear competition from any quarter.

XXXIV.—COMBS.

No. 1402. India Rubber Combs, by the New York India Rubber Co., deposited by E. C. Pratt & Brothers, Philada. Without being acquainted with the process of manufacturing in this material, we report that the article is of fair quality in workmanship, compared with combs made of other material; and in regard to the application of india rubber to the manufacture of combs, especially dressing combs, they believe it a great improvement and peculiar fitness for such purpose.

A Third Premium.

XXXV.—PAPER HANGINGS.

The Committee regret that there should be but two deposits of an article so extensively and so well made in this country, but take pleasure in testifying to the great excellence of those on exhibition, not only in

design and manufacture, but also great improvement in smoothness and evenness of tints; and while we confess some difficulty in deciding the respective merits of the two depositors, yet, after careful examination, we judge No. 1408, by Howell & Brothers, Philadelphia, to be superior in point of beauty of patterns and choice of colors, and award

A First Premium.

No. 1403. By Perkins, Smith & Co., New Bedford, Mass., deposited by Longstreth & Brother, Philada.; exhibit great excellence and beauty, but in the latter quality are not equal to No. 1408. We award

A Second Premium.

XXXVI.—BRUSHES.

No. 1405. Varnish Brushes, by Chas. Thum, Philada. The great improvement in these brushes is spoken of in very high terms of praise by the Judges and certificates exhibited from the trade in general. For the improvement, as well as excellent make, we award *A First Premium.*

No. 1409. Feather Brushes, by Harrison Dixon, Philada.; very creditable to the maker, good workmanship, neat and tasteful finish.

A Third Premium.

No. 1404. Paint Brushes, by J. T. Steer & Co., New York, deposited by F. Hartley, Philada.; are well made, and of good material.

XXXVII.—GUM ELASTIC GOODS.

No. 1401. Elastic Gaiters, by E. Cogswell, Philada.; well made, and deserving of encouragement.

No. 1407. Elastic Suspenders, Gaiters, &c., by Geo. W. Vanhorn; creditable for good and neat work; not expressly prepared for Exhibition.

No. 1305. Gum Shoes, by W. Renton, Philada.; the usual work of this kind; presume them to be deposited for Exhibition, as we perceive the stamp of the New York Rubber Company upon some of the articles.

XXXVIII.—CHEMICALS.

The general display of chemicals, in comparison with last year, is less extensive, and the contributors less numerous; yet the quality of the chemicals on exhibition is quite equal to similar articles on former occasions. Several manufacturers who have usually contributed, are not on the present list, more especially those who have sent pharmaceutical chemicals. This is to be regretted, as the amount and variety of these products are annually on the increase, and they deserve the fostering care and encouragement of the Institute. Of the articles submitted to us, we will notice,

No. 1487. A Display of Chemicals, by Powers & Weightman, Philada. Although not so numerous as on some previous occasions, the specimens are larger, and fully equal, and in some instances superior, in quality to those of former deposits. The Committee would direct attention to the sulphates of cinchonia, quinia, and morphia, to the strychnia, caffen,

and gallic acid, among the organic products; and to the bicarbonate of potassa, crystals of tartar emetic, tartaric acid, rochelle and epsom salts, and to the very beautiful crystallizations of blue vitriol and alum. The justly acquired reputation of the manufacturers is fully upheld by their present contribution, which is the finest in the Exhibition. The depositors having received a gold medal at a former Exhibition, the Committee, for equal, and in some instances, superior merit, award

A Recall Gold Medal.

No. 1474. An extensive display of powdered Drugs and cut Dye Stuffs, by Browning & Brothers, Philada. The powders are in quart glass stopped bottles; among them, the powders of tragacanth, salep, sago, and colocynth, substances of difficult comminution; those of buchu, orange peel, valerian, and serpentaria, which contain volatile oils, and are liable to injury from loss of aroma; and those of opium, squill, and extract of liquorice, which rapidly conglomerate by exposure to moist air; all present the characteristics of fineness, purity, and good condition. Of the other powders, the borax and sal ammoniac are fine, but not so white as they should be. Upon the whole, the Committee regard this deposit as very creditable to the manufacturers, and fully equal to that of last year, which received the award of a first premium; they therefore award

A Recall First Premium.

No. 1467. A Lot of Chemical Products from Coal Tar, consisting of Benzole, Naphtha, Toluole, Coup Oil, Naphthaline, and Asphaltum, and deodorized or pure Alcohol, by Philbrick, Atwood & Co., Boston, Mass. The Committee deem the coal tar products worthy of a special notice for the valuable applications that have been made of them. An ordinary barrel of coal tar yields a half gallon of benzole, one and a half gallons of naphtha, a half gallon of toluole, five gallons of *coup oil*, and 150 lbs. of asphaltum. The benzole is an excellent solvent for caoutchouc, gutta percha, copal, etc. The naphtha and toluole in a partially purified state are used in coarse varnishes, and also for illumination, when purified. The *coup oil* is stated to be the most important product, arising from the fact that it possesses properties as a lubricator for the nicest machinery, which render it equal to sperm oil, and for some purposes superior, as it is more fluid and penetrating, and less easily oxidized or gummed by friction. The asphaltum is used for varnishes and cements, like the mineral asphalt. The alcohol is deodorized by the use of manganic acid, and is very free from fusel oil, and other sources of odor and taste. For the quality of the products, and as an encouragement to the manufacturer, the Committee award

A First Premium.

No. 1468. A Case of Chemical specimens, by Dr. Genth, Philada.; comprising a series of salts of the modifications of oxide of cobalt, recently described by Dr. Genth, many of which are beautiful in color and crystalline form. Besides these, there are salts of nickel, chloride of gold and sodium, titanio and niobio acids, osmium, tellurium, glucina, oxide of uranium, nitro-prusside of potassium, etc. As an encouragement to the pursuits of chemical investigation in the analytical laboratory, as well as for the merit of the specimens themselves, the Committee award

A First Premium.

No. 1456. A Lot of Mustard, prepared by Chas. V. Hagner, Philada.; two cases fine yellow, and two of brown seed. The result of our trials indicate the brown mustard to be of superior quality, as regards fineness, great pungency, and freedom from unpleasant taste. The yellow mustard is of good quality; one specimen is colored with turmeric.

No. 1457. A Lot of Chemicals from Harrison, Brothers & Co., Phila.; consisting of sugar of lead, alum, orange mineral, red lead, and litharge. The sugar of lead is white, well crystallized, and similar to that of a former Exhibition.

No. 1465. Carbonate of Magnesia in small squares, and in powder, by Tearing and Akin, Yarmouth, Mass.; the appearance of this magnesia is in its favor, but not being accessible it was not submitted to examination.

No. 1470. A Case of Adhesive Plaster, by Chas. Ellis & Co., Philada. This plaster is smoothly spread, and is of good quality. It is in rolls of full and half width, in paper and tin cases.

No. 1471. A Bottle of Tannic Acid, by E. L. Perot; is of good quality and in light crusts.

No. 1473. A Lot of Bottles of Citrate of Magnesia in powder, from Samuel C. Sheppard, Philada. This preparation is a dry mixture of citric acid, calcined and carbonate of magnesia and sugar, and is intended for making the medicinal solution of citrate of magnesia, extemporaneously, by merely mixing the powder with water. The magnesia is gradually dissolved by the citric acid, and the solution resulting is a good substitute for the ordinary solution of the shops. It has the merit of being permanent as long as it is kept dry, and is suitable for travelers.

No. 1478. A Case of Plasters, by Johnston, Holloway & Cowden, called Arnica Plasters, which are neatly spread with regular margins, for use.

No. 1479. A Case of Spread Adhesive Plaster, by Chas. Shivers, Philadelphia. The good quality of the plaster made by this manufacturer is fully supported by the specimen on exhibition.

No. 1483. A Lot of Indelible Ink, Toilet Powder, and

No. 1488. Machine Spread Strengthening Plasters, by Caleb H. Needles, Philada.; they are neatly gotten up.

No. 1466. Sugar of Lead, by F. S. Lewis & Co., Phoenix Chemical Works, being part of a deposit of coloring substances. This specimen of acetate of lead deserves notice for the size and thickness of its crystals, a desirable point in its manufacture not generally attainable, and which renders the salt less disposed to effloresce than when in acicular crystals or thin plates.

Nos. 1461 and 1462. Medicinal Preparations, by B. Keith, M. D. These medicines purport to be concentrated preparations of medicinal plants prepared according to processes adopted by the Eclectic Medical Schools. The term resinoids has been applied to many of them from the fact that when an alcoholic solution of the drugs is concentrated to a syrupy consistence by evaporation, and thrown into water, resinous powders are precipitated, which are the so-called resinoids in an impure state. All of the preparations exhibited are not of this kind; the oil of lobelia and the oil of erigeron. Among the preparations are, cypripedin, cornine, hydrastin, sanguinarin, caulophylline, asclepin, cæonothin, scu-

tellarin, alnusne, senecin, xanthoxilin, enonomin, leontodin, leptandrin, and podophyllin. From an examination of a number of these specimens, the Committee believe they have no claim to be considered as distinct principles, but are mixtures of several vegetable substances obtained by the processes used, and that the names applied to them are improper, as indicating them to be distinct proximate principles. In reference to their medicinal power, the Committee give no opinion.

XXXIX.—CANDLES, SOAP, AND PERFUMERY.

No. 1475. Perfumery and Toilet Soap, by X. Bazin, Philada.; is a very fine display, in regard to quality of the article itself, as well as elegance in their external appearance. The Committee particularly notice a beautiful assortment of extracts of sixty different varieties, equal to the best imported, and superior to others manufactured in this country. The extract called oriental drops, commends itself especially for its exquisite odor. Twelve variety of toilet soaps are of delightful odor, and very fine quality. One fragment with the odor of new mown hay must be especially favored.

The Judges remark in regard to the above deposit as follows: For this beautiful display, and the admirable qualities of the goods made by the depositor, and that they were taken directly from the shelves of his ware-room, and not prepared expressly for Exhibition, the Judges would recommend the highest premium in the gift of the Committee on Exhibitions.

The Committee on Exhibition, in accordance with the report of the Judges, award to X. Bazin for soaps and perfumery, as highly deserving,
A First Premium.

No. 1464. Soft Soap, by J. C. Taylor, Philada.; represented by the maker as capable of being made in forty minutes without the aid of heat, and at a cost of about one cent per gallon; upon trial it was found a superior article, well adapted for washing all kinds of clothing.

A First Premium.

No. 1451. Fancy and Ordinary Soaps, by Bancroft & Son, Philada. This display is very creditable, and deserving much praise for its excellent quality, and especially for the manufacture. The makers have made the first use and application of caustic soda from common salt in the manufacture of hard soaps; and it is a matter of gratification that this important discovery was first suggested by a member of the Franklin Institute, (R. A. Tilghman,) a discovery of no small importance, when we state that one establishment in our City imports the foreign article to the amount of \$100,000 per annum, which, to a very great extent, we have no doubt, will be displaced by this domestic production. The caustic soda made use of in the manufacture of the soap exhibited, is from the Penna. Salt Co., near Pittsburgh. For the application above spoken of,

A First Premium.

No. 1492. Spermaceti and Candles, by J. Sniffin, Jr., & Co., N. York, deposited by Cochran & Russell, Philada.; a large and beautiful cake of spermaceti, and an assortment of plain and colored spermaceti candles.

The candles are very pure, and of beautiful appearance, but would suggest improvement in their burning; for their beauty and purity, we award
A Second Premium.

No. 1483. Toilet Powder, by C. H. Needles, Philada.; of good quality.

No. 1489. Freckle Wash, by J. Hancock, Philadelphia.

No. 1472. Hair Oil, by W. White, “

Both of these deposits are put up with much neatness, but as their composition is unknown to the Committee, they decline giving an opinion.

No. 1452. Bleached White Wax, by A. Nix, New York, deposited by W. Griffith, Philada.; a very good article of sun-bleached wax.

XL.—PAINTS AND COLORS.

No. 1466. By F. S. Lewis & Co., Philadelphia. An extensive assortment of Chrome Yellow and Green, dry and in pulp; all highly creditable to the manufacturers. The brown metallic paint, ground in oil, has a good body, but is almost too dense to remain properly suspended in the oil when in use. The bleached linseed oil, called Damar oil, is of a light color, but has become fattened by the process. The Chinese scarlet is a splendid article. For the general excellence of this display,
A Recall First Premium.

No. 1499. Zinc Ore and White Oxide of Zinc, by the Pennsylvania Zinc Company, Lehigh Valley, near Bethlehem, Pa.; deposited by Sam'l Wetherill, Superintendent. The white oxide, upon grinding, was found a good white as a paint; is considered a pure article for use, and as a paint, will compare favorably with any imported article of the same kind.
A First Premium.

No. 1480. Light Chrome Yellow, and Prussian Blue, by French & Richards, Philadelphia, are both good articles.

XI.—CLOTHING.

No. 1570. Embroidery in Gold and Silver, by Helen M. Vanneman, Ohio, being a set of Odd Fellows' Regalia. They are new in design, and very superior in workmanship; evincing much skill and taste on the part of the lady, to whom the Committee with much pleasure award
A First Premium.

No. 1561. Children's Clothing, by Mrs. M. Bradfield, Philadelphia. Got up with style and neatness.

No. 1562. Child's Sack, by Miss E. Hamor, Philadelphia, displays taste and neatness.

No. 1563. Boys' Clothing, by Mrs. Keyser, Philadelphia, very neat and tasty.

No. 1566. A very large display of Gentlemen's Ready Made Clothing, by Bennett & Co., Philadelphia, sustaining his reputation for style and workmanship.

No. 1567. Fancy Costumes, by J. R. Houghton, Philadelphia, of rich appearance and style.

No. 1568. Gentlemen's Dressing Gowns, by R. C. Walborn & Co., Philadelphia, of good workmanship.

XLII.—NEEDLEWORK AND FANCY GOODS.

No. 1675. Bead Work, by Pupils of Pennsylvania Institution for Instruction of the Blind. Deserving of high credit for taste and workmanship, when the unfortunate condition of the pupils is remembered. Having received, at a previous Exhibition, a first premium, we award for this deposit, *A Recall First Premium.*

No. 1068. Wax Fruit, by Mrs. Cameron, Philadelphia. For skill in workmanship, and truthfulness of imitation, *A First Premium.*

No. 1688. Embroideries and Designs, by Mrs. Webb, Philadelphia, deposited by Miss S. Claghorn. For beauty, taste, and execution, *A First Premium.*

No. 1650. Zephyr Coverlet, by Mary E. & Susan G. Watson, Middletown, Bucks Co., Pa., deposited by Joseph Watson. For skill and taste, *A Second Premium.*

No. 1704½. Millinery Goods and Bonnets, by Mrs. Thomas Morgan, Philadelphia. For style and beauty, *A Second Premium.*

No. 1672. Artificial Flowers in Sugar, by William J. Garrett, Philadelphia. For skill and beauty, *A Second Premium.*

No. 1555. Crochett Work, by Miss Ame Humphreys, Philadelphia. For taste and neatness, *A Third Premium.*

No. 1561. Clothing and Paper Patterns, by Mrs. M. Bradfield, Philadelphia. For style and work, *A Third Premium.*

No. 1695. Bed Quilt, by Catharine Sess, Harrisburg, Pa., deposited by J. McDonough. For design and good work, *A Third Premium.*

No. 1617. Wax Fruit, Zephyr Flowers, and Shell Work, by Miss Margaretta G. Bradley, Philadelphia, of good design and finish. The fruit, a good description. *A Third Premium.*

No. 1703½. Velvet and Morocco Jewel Cases, by Peacock & Fickert, Philadelphia. The workmanship is superior, and of neat appearance. They are handsome articles, and will compare favorably with other makes.

No. 1551. Fancy Work Bags, by the Shawnese Indians, deposited by D. Bossard. Prettily made.

No. 1552. Tapestry Work, by Ellen Chamberlain, Philadelphia. Deserves much credit.

No. 1553. Embroidery, by Henry Luther, Philadelphia; some of which is exceedingly well done.

No. 1557. Head Dresses, by Sophie Bezard, Philadelphia. Deserving notice.

No. 1558. Embroideries, by Mrs. Reinhart. The mouchoir case very beautiful.

No. 1559. Worsted Work, by Miss Dinelt. Very handsomely worked.

No. 1560. Set of Knit Bed Furniture, by Miss H. Shilling. Worthy of commendation, and requiring great patience.

No. 1564. Children's Caps, by O. C. Nichols, Philadelphia. Deserving notice for remarkable neatness.

No. 1602. Bonnets, by Mrs. Drooin. Very tastefully made.

No. 1610. Fancy Feathers for Bonnets, by Mrs. A. Griffiths, are deserving of particular notice.

No. 1625. Bed Spread, by Miss Magee. Well executed.

No. 1629. Silk Quilt, by Miss Jane Johnson. Very pretty design.

No. 1630. Bed Spread, by Miss W. S. Myler. Neatly quilted and shows much patience.

No. 1697. Paper Flowers, by Miss E. Williamson. Very well made.

No. 1701½. Spool Stand, by E. Rothwell. A useful and pretty article.

No. 1639. Ladies' Reticule, by E. Nagy, Newark, N. J., deposited by Jane Dickson. Worthy of notice for beautiful execution.

No. 1640. Hair Work, by Matilda Behl; neat and tasty.

No. 1646. Zephyr Flowers, by Anne W. Bolles; design very good.

No. 1656. Basket Worsted Flowers, by Miss Williams; well finished.

No. 1657. Artificial Flowers, by A. Williamson; some of them very good.

No. 1663. Fancy Chair Pattern, by M. L. Burr; a very pretty article.

No. 1671. Shell Work, by Miss Louisa Mouillé. Very pretty, requiring much time and patience.

No. 1674. Crochett Bag, by Rachel Leard. A remarkable piece of work.

No. 1677. Worsted Work, by Miss Rachel J. Marple; design very good.

No. 1684. Imitation Marseilles Bed Quilt, by Miss Mary Knight. Deserving of much credit for excellent imitation.

No. 1689. Bonnets, by Mrs. E. Evans; among which is a beautiful and fine straw bonnet, tastefully trimmed.

No. 1691. Dressing Cases, Work Boxes, &c., by W. T. Fry, Philadelphia. Deserving of much notice for taste and workmanship. This depositor received a first premium for similar goods last year.

XLIII.—MISCELLANEOUS ARTICLES.

No. 1655. American Cigars, by George W. Long, Philada.; a large variety made in imitation of the various Havana brands; they are made altogether of Cuba filling, and with the exception of a few kinds that have seed wrappers, are also wrapped with Cuba leaf. For the superior manner of their make,

A Third Premium.

XLIV.—GOLD PENS.

No. 953. Gold Pens, by Bard & Wilson, Philada.; are a good article, and will compare favorably with any of the same kind that we have ever tried.

No. 968. Gold Pens, by Adam William Rapp, Philada. Many persons are partial to this make; in the opinion of the Committee, some of its objections are counterbalanced by positive merit, and the maker deserves credit for his efforts to improve an article of such necessity.

No. 972. Towar's Improved Pen, by William H. Towar, Philada.; the chief merit of which we find that it will write equally well with either side.

XLV.—LOCKS AND DOOR FURNITURE.

The Committee remark, that the ingenuity and enterprise of our mechanics has placed this department in advance of the efforts of all other nations. In the finer and more expensive class of locks, it has been abundantly proved that the American production is superior to any other; while in locks, latches, &c., adapted to the wants of the builder or to commerce, the American mechanic supplies our home demand; thus saving our country annually a vast sum from going abroad to supply these wants.

No. 37. Butterworth's Patent Combination Bank Lock, by J. H. Butterworth, Dover, N. J.; the safety of which need not be feared, inasmuch as the key, though it always retains the same form, no person can master the construction to whom it is not known, without having access to the interior of the safe. We award *A First Premium.*

The Yale Lock, by the same depositor, intended for a secondary fastening, is also deserving of praise, and can be afforded at a comparatively low price.

No. 741. Locks, Latches, &c., by various makers, deposited by W. M. M'Clure & Brother, Philada.; a large collection of good and useful goods, adapted to every day wants.

No. 743. Decorated Knobs and Escutcheons, by L. D. Girardin, Jersey City, N. J., by the same depositors; presents some new and pretty patterns.

No. 744. Silvered-Glass Door Furniture, by E. Robertson, Boston, Mass., same depositors; is an excellent imitation of plated work.

Silver Plated Work, made and deposited by W. M. M'Clure & Brother, is well plated and finely finished.

No. 729. Porcelain Knobs, by Russell & Erwin, Philada., deposited by Norman & Hart, Philada.; many of the Knobs and Escutcheons are of new patterns.

No. 737. Knobs and Mountings, by W. Sword & Co., New York, deposited by Peter Rogers, Philada.; equal to previous Exhibitions.

No. 730. Locks and Knobs, by Cartledge & Co., Philada., deposited by James E. Terry; well made and good marketable articles.

No. 713. Locks and Brass Hinges, by G. W. Bradfield, Philada.; well finished goods.

XLVIII.—ORDNANCE.

No. 68. Brass Howitzer—Ordnance Office, U. S. Navy Yard, Washington, D. C., deposited by Lieut. John L. Dahlgren, U. S. N.; adapted to the use of naval and field service. The mechanical execution of this gun is very superior, and its carriage showing no attempt to fine finish, yet displays strong and good workmanship. The copper combined in the piece is composed of the worn-out sheathing copper from the bottoms of U. S. ships, and the iron used in the carriage being made up of scraps. Seventy of these pieces are now in use in the naval service of the United States, and are highly spoken of; and it is with some pride that we ac-

knowledge its present perfection as the work of Lieut. Dahlgren, of this city. The mechanical execution of the piece being highly deserving the credit we now give it, the Committee regret their inability at this time to report upon its adaptation to the service from actual experience—the gun being intended for the U. S. ship Independence, now preparing for sea, to which it had to be removed at the close of the Exhibition, thus preventing us from making actual experiments.

We, therefore, recommend it be referred to the Committee on Science and the Arts.

XLIX.—RAILROAD CAR FURNITURE.

No. 817. Improved Car Seat, by John T. Hammitt, Philada. This seat, while in appearance and adaptation it is equal to any other seat in use, has one superior qualification, which is, that the passenger, by the slight movement of a spring, changes the form of the seat in such manner that he has all the comfort of a bed; and whereas the ingenious maker has effectually met a great want with the traveling public, we award him
A First Premium.

L.—PLUMBER'S WORK.

No. 577. Plumbing Work for Bath and Kitchen purposes, by Edgar Z. Steever, Philada.; exhibiting a plan for hot and cold ring frame.

The mechanical execution of the deposit is very excellent; but as the depositor claims great improvement in other respects, which the Committee have not an opportunity of giving a practical test, we recommend the matter to be referred to the Committee on Science and the Arts.

No. 256. Block Tin Pipe, by Tatham & Brother, Philada.; a beautiful and highly finished article.

No. 331. Soap Stone Sinks, Griddles, Registers, &c., by E. Pratt & Co., Philada.; all well made and adapted to their several uses.

LI.—BUILDING MATERIALS.

No. 12. Pressed Brick, by Huhn & Brother, Philada; the best quality of moulding and plain Brick.
A First Premium.

No. 103. Pressed Brick, by Paxson & Phipps, Norristown, Pa., deposited by J. W. Andrews; solid and highly creditable, being coal-burned, for which we award
A First Premium.

No. 804. Inside Venetian Shutters for Blinds, by B. J. Williams, Philada.; a new article in its arrangement, well made and neatly finished; adapted for constant use, and must merit approbation.

A First Premium.

No. 80. Tenoning Machine, by Ball & Rice, Worcester, Mass.

No. 81. Sash and Moulding Machine, by same, both deposited by Abel Reed, Philada. The work done by these machines merits our approbation.
A First Premium.

No. 83. Sash and Moulding Machine, by J. A. Fay & Co., Norwich, Conn.

No. 85. Power Mortising Machine, by same, both deposited by Abel Reed; for same qualifications as above, *A First Premium.*

No. 101. Patent Blind-Slat Chisel, by G. W. McGaffery, Philada.; deposited by Abel Reed; a highly meritorious article, working with great speed and correctness; draws the core, leaving a clear and neatly made mortise. In a very high degree this simple and well adapted machine meets our commendation. *A First Premium.*

No. 33. Pressed Brick, by George Snyder, Philada.; very superior. *A Second Premium.*

No. 97. Rolling Pivot Blind, by F. R. Gatchell & Co., Philada.; meritorious article in arrangement and usefulness. *A Second Premium.*

No. 19. Steam Wood Mouldings, by Esler & Bower, Philada.; good patterns, smooth work. *A Second Premium.*

No. 52. Wood Mouldings, by Burtis & Son, Phila.; deserving much praise. *A Third Premium.*

No. 724. Self-acting Sash Fastener, by H. Hochstrasser, Philada.; a simple and useful invention. For its adaptation, *A Third Premium.*

No. 102. Pressed Brick, by J. W. Andrews, Norristown, Pa.; deserving of much praise for coal-burned Brick. *A Third Premium.*

No. 9. Pressed Brick, by Peter Bobb, Philada.; superior article.

No. 16. Pressed Circular Brick, by J. & T. Gillespie, Philada.; very good.

No. 27. Steam Wood Mouldings, by E. H. Suplee, Philada.; very fair work.

No. 34. Pressed Brick, by W. B. Snyder, Philada.; very good.

No. 43. Boring Machine, by R. Buck, Colerain, Mass., deposited by Dilworth, Branson & Co.; useful and well adapted.

No. 44. Boring Machine, by Hovey & Co., Worcester, Mass., same depositors; good, serviceable article.

No. 71. Expanding Window Sash, by M. Nutting, Portland, Maine; new arrangement, suitable, and worthy of notice.

No. 59. Building Brick, by S. E. Sharpless, West Chester, Pa.; very fair.

No. 78. Daniels' Planing Machine, by Ball & Rice, Worcester, Mass., deposited by Abel Reed, Philada.; works well and very useful.

No. 79. Scroll Saw, by the same makers and depositor; good working article.

No. 82. Tenoning and Boring Machine, by Fay, Fisher & Co., Lancaster, same depositor; meets with approbation.

No. 98. Window Sash, by F. R. Gatchell & Co., Phila.; meritorious.

No. 124. French Window, by Reid & Warner, Philada.; deserving of attention.

No. 123. Machine Pressed Brick, by Wagner & Imlay, Philada.; good article.

No. 146. Pebble Composition Roofing, by Warren & Burnham, Philada.; well adapted for general purposes.

LII.—CHURCH ORGAN.

An Organ, built by J. C. B. Standbridge, Philadelphia, for the Calvary Presbyterian Church, Locust Street, Philadelphia.

Description.

Three Manuals and one Pedal Organ. Compass of Great Organ, GG to F in alto; 59 notes.

Register.	Pipes.
1. Large open diapason, (bass,) metal; GG to B, -	17
All these pipes stand in the ornamental front, gilt.	
2. Large open diapason, 4 fr. C to F in alto; metal, -	42
3. 2d open diapason, 4 fr. C to middle B, -	12
Violin from middle C to F in alto; metal,	30
	— 42
4. Hollow Flute, wood; unison, 4 fr. C to F in alto, -	42
5. Dulciana, metal, conical pipes, 4 fr. C to F in alto,	42
6. Stopped Diapason, bass, wood; large scale GG to B, -	17
7. " " treble, " " " 4 fr. C to F in alto,	17
8. Principal, metal; throughout, -	59
9. Clarible flute, metal; unison with principal, -	42
10. Twelfth " " " -	59
11. Fifteenth " " " -	59
12. Sesquialtre, (3 rank,) 17th, 19th, and 22d, -	177
13. Trumpet; gilt reeds, -	59
14. Clarion; 47 reeds and 12 open pipes, -	59
Total pipes in Great Organ, -	758

Choir Organ.—Compass, GG to F in alto; 59 notes.

15. Open diapason, bass, wood; GG to F \sharp , -	12
16. " " treble metal, -	47
17. Viol d'Amour; conical pipes; gamut G to F in alto, -	47
18. Stopped diapason, wood, (small scale,) -	47
19. Principal, metal, -	59
20. Chimney flute, metal; gamut, G to F in alto, -	47
21. Twelfth " " from lowest C, -	54
22. Fifteenth " " " " -	59
23. Hautboy, (delicate,) 4 fr. C to F in alto, -	42
24. Clarionet, 4 fr. C to F in alto, -	42
Total pipes in Choir Organ, -	456

<i>Swell Organ</i> .—Compass of keys, 59 notes in swell box; gamut G to F in alto, 47 notes.			
25. Bourdon (double stopped diapason,) small scale; lowest, 30 pipes of wood; upper, 17 of metal,	-	-	47
26. Open diapason, metal, (except 5 lowest pipes, which are of wood, stopped,) gamut, G to F in alto,	-	-	47
27. Clarabella, (wood, unison,) 4 fr. C to F in alto,	-	-	42
28. Stopped diapason; 5 lowest, wood; 42 highest, metal,	-	-	47
29. Principal,	-	-	47
30. Wald flute, (wood,) unison with principal,	-	-	47
31. Twelfth,	-	-	47
32. Fifteenth,	-	-	47
33. Clarionet, 4 fr. C to F in alto,	-	-	42
34. Cornet, 2 ranks; 12 lowest, 17 and 22; 30 highest, 12 and 17,	-	-	84
35. Oboe; gamut, G to F in alto,	-	-	47
36. Trumpet, “ “ “ - - -	-	-	47
Total pipes in Swell Organ,			591

Pedal Organ.—Compass of keys, GGG to G, 25 notes.

37. Double open diapason, wood; large scale, CCC to G, 5 keys below CCC playing the pipes of the one above,	-	-	20
38. Open diapason, wood, GG to C,	-	-	25
Total Pedal Pipes,			45

39. Tremulant (on swell.)
 40. Bellows alarum.
 41. Coupler; pedals and choir organ.
 42. “ “ great “
 43. “ great and swell in unison.
 44. “ “ “ choir, octave below.

Three Composition Pedals.

1. Positive (great) organ.
2. Open diapason and trumpet, (great.)
3. Fall organ,
4. To bring out double open diapason pedal.
5. To throw in “ “ “ “

Total pipes in organ.

Great,	-	-	758 pipes.
Choir,	-	-	456 “
Swell,	-	-	591 “
Pedals,	-	-	45 “

1850

Total number of Stops,	35
“ “ Basses,	3
“ “ Registers,	45

The organ is enclosed in a light gothic case, faced with gilt pipes, (39 in number, 17 speaking.) It occupies 21 feet front, 9 feet 6 inches deep, and 28 feet high in the centre. The keys project two feet from the case.

The Committee on Exhibition, with a view of receiving a full and free expression from the Judges in regard to the merits of this organ, requested from each Judge a separate report, and in justice to the builder, deem it advisable to publish the opinion of the Judges separately, which will be found to harmonize to an unusual degree.

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 “In the examination of this instrument I have considered it in two ways; 1st, as a piece of mechanism; 2d, as a producer of musical sounds.

The actual mechanical movement contains nothing new, but as a piece of workmanship is very creditable; and with the exception of the use of cloth bushings in all holes in which pins or pivots work, we do not see anything of sufficient superiority over instruments of the same class meritorious of further commendation than that it is ingeniously contrived, and works with unusual freedom from noise.

An improvement has been made of late years by the substitution of hard for soft metal in the larger pipes; this has been very successfully introduced; all of the large pipes, and a large proportion of the smaller ones, are made of sheet zinc; the lightness and stiffness of the material enables the pipe to maintain its form, and the foot to support the pipe without the gradual yielding and bending so common with the old materials.

“As an instrument for the production of musical sounds I will particularly notice the following stops:

“The large *open diapason*, (register 1 and 2,) great organ, is finely voiced, the tone round and full, and the pipes all speak promptly.

“The *Violin*, (great organ,) is the best imitation of the stringed note I have ever heard; (the pipes are open, and formed of two frustra of cones united at their smaller ends.)

“The *Dulciana*, (great organ,) is made with conical pipes; the stop is remarkably good.

“The *Clarible Flute*, (No. 9, great organ,) and *Wald Flute*, (No. 38 in swell organ,) are beautiful examples of the fancy stops.

“The *Stopped Diapasons*, (No. 6 and 7 of great organ, No. 18 of choir, and No. 28 of swell,) are beautiful stops, and I think them much superior to those in any other organ I have ever heard.

“The *Double Stopped Diapason*, or Bourdon, (No. 25 in swell,) if possible, is more finished than the octave stops above enumerated.

“This instrument contains seven reed stops; trumpet, (No. 13,) and clarion, (No. 14,) in great organ; hautboy, (No. 23,) and clarionet, (No. 24,) in choir organ; trumpet, (No. 36,) Oboe, (No. 35,) and clarionet, (No. 34,) in swell organ. These stops are furnished with gilt reeds and sliding bells, and are by far the best reeds ever exhibited in this country. The trumpets possess remarkable smoothness and equality of tone. The clarionets and hautboys are nearly as smooth as open pipes, and the delicate hautboy, in the choir organ, has all the good qualities of the free reed, with greatly increased volume, power, and promptness.

“The peculiarities of the organ consist,

“1st, In the judicious selection and arrangement of the stops.

“2d, In the careful voicing.

“The quality of every stop is distinct and characteristic. The quantity of tone or volume, is perfectly preserved throughout the scale. Upon these two the excellent character of the instrument mainly depends, and their possession indicates the application of much time, patience, and skill.

“3d, In the superior disposition of the pipes and mechanism within the instrument for the purposes of tuning and repair.”

“As one of the Committee, I have no hesitation in giving Mr. Standbridge’s organ unqualified praise. From an instrument of the same size, I have never heard equally good effects, either in this country or Europe. The pedal notes seem remarkably free from the harmonies so frequent in other organs, and the imitative stops I think as near perfection as is likely to be attained. The great care taken in the construction of the details of the action has resulted in a promptness of speaking and equality of touch, which, combined with the unusually effective swell organ, give into the hands of the performer almost all the power of a large orchestra.”

“I had the pleasure to be present at a trial of the organ built by J. C. B. Standbridge, for the Calvary Church, on the 21st November, in the evening, and so far as my judgment goes, was very much pleased with the different stops, especially those called reed, and the power and sweetness of the whole; and more especially of the *swell*, which I doubt that it will ever be surpassed.”

“Besides examining the organ in Calvary Church last evening, I have watched the building of the same from its commencement by Mr. Standbridge, to the finishing touch. Hearing it so often, and seeing all the details of its machinery, construction, &c. &c., I am enabled to say that I believe it to be the most perfect and complete instrument in this City. I think I can add with safety, in any part of this country. The mechanism of the instrument, and the improvements introduced by Mr. S., are decidedly superior. The arrangement of the organ is good, the tone is really beautiful, and the effects it produces are not only great and varied, but such as must impress every hearer as imposing, grand, and of great beauty. I have never before heard an organ which possesses all the desirable qualities needed in an instrument of this class to so great an extent as the organ in Calvary Church. It deserves great praise, and I have no doubt that it is in all respects the most complete and perfect organ yet erected in this country.”

“I attended as one of a Committee, appointed to examine the organ in Calvary Church, built by Mr. J. C. B. Standbridge. I take great pleasure in saying, that I consider it, taken as a whole, superior to any organ that has come under my notice, possessing, as it does, great power, brilliancy, and purity of tone; the various stops blending together and producing a unity of effect, so desirable in all organs, susceptible, in consequence of their magnitude, of so many and so various combinations. The reed and other fancy stops are so perfect, that it is difficult to dis-

tinguish them from the instruments they are intended to imitate. The touch, and promptness of the sound, are also, both all that can be desired. On the whole, I confidently believe, that our fellow-townsmen, Mr. Standbridge, has placed it beyond a doubt, that as good an organ can be built in Philadelphia as in any part of our country."

"Having had several opportunities of becoming acquainted with the organ in Calvary Church, erected by Mr. Standbridge, I do not hesitate to say, that in my opinion, there is no organ in Philadelphia, (or that I am acquainted with in the country,) whose musical effects, either by single stops, or by combination of stops, are equal to those produced by the instrument in question. There is a delicacy and beauty in the soft stops, and a grandeur in the full swell, which is certainly without a rival in Philadelphia. And the same may be said of the great organ and choir. It is by each stop having its own *peculiar character—decided and musical*—that beautiful effects are obtained by combination. There are seven reed stops in this organ, and certainly they are as near perfect imitations of certain instruments as we may reasonably expect to hear. The entire instrument speaks promptly and is well voiced. The touch light and firm. Action work, all very good.

"It affords no little satisfaction to be able to say thus much in favor of an organ built in Philadelphia. And no doubt it will give equal pleasure to the Franklin Institute to show how to appreciate merit."

"As one of the Judges appointed by the Franklin Institute on Mr. J. C. B. Standbridge's organ, in the Calvary Presbyterian Church, I have carefully examined the same, and it gives me great pleasure to say, that I consider it an instrument of the very highest order, as regards both tone and workmanship.

"The diapasons are very full, rich, and of even quality. The different mixtures blend beautifully, forming brilliancy without shrillness. The reed stops are unsurpassed for roundness, smoothness, and promptness. The fancy, or imitative stops, are most exquisite, particularly the clarabella and violin, which are, indeed, gems of great beauty. The pedals are very deep and clear. The swell is a very effective one, producing the very softest sounds, and gradually increasing them to the fullest power. To particularize minutely every part and power of such an instrument, would be a work of supererogation. I recommend it cheerfully, in the highest confidence of its power and excellence, and most heartily congratulate the congregation in an acquisition, so well, in every respect, suited to promote the ends of Christian worship, and true devotion."

"The organ erected by Mr. J. C. B. Standbridge, in the Calvary Church, I believe to be one of the finest instruments in the country, and deserving of the highest award in the power of the Franklin Institute to bestow. In beauty of tone, variety of combination, volume of sound, magnificence of swell, and in its mechanical construction, I do not know

of any instrument that, taken as a whole, can surpass it, and Philadelphians have every reason to pride themselves on the building of such an instrument by one of their own citizens."

The Committee on Exhibitions, in concurrence with the above Reports, have unanimously resolved to recommend to the Institute, to award to J. C. B. Standbridge, *A Gold Medal.*

GIRARD COLLEGE, *November 2, 1853.*

*To the Committee on the Franklin Institute Exhibition of
American Manufactures:*

GENTLEMEN:

At a meeting of the Faculty of the Girard College for Orphans, held on Monday, October 31st, 1853, President Allen in the chair,

It was, on motion, unanimously

Resolved, That the thanks of the teachers and pupils of the College are due, and hereby are given to the Committee on Exhibitions of the Franklin Institute, for their kind and generous invitation to visit their beautiful collection of American manufactures.

Resolved, That the opportunity thus afforded by the Franklin Institute to the pupils of the Girard College will, in our estimation, be of great service to them in after life, by raising within their minds a spirit of emulation, and a desire to excel in the various mechanical and useful arts, which were thus placed under their observation and study.

Resolved, That the Secretary be instructed to furnish the Committee on Exhibitions of the Franklin Institute, with a copy of the above resolutions.

GEORGE I. BECKER,

Secretary of the Faculty.

ADDRESS

DELIVERED BEFORE THE FRANKLIN INSTITUTE,
OF THE STATE OF PENNSYLVANIA,

FOR THE PROMOTION OF THE MECHANIC ARTS, AT THE CLOSE OF THE

TWENTY-SECOND EXHIBITION

OF

American Manufactures,

BY

GEORGE HARDING, Esq.

THE Committee on Exhibitions have invited me to deliver the closing address this evening. Deeply sensible of the honor thus conferred, and feeling the warmest interest in the success of our Institute, I have ventured to accept their invitation. I fear that you will have reason to regret that their choice had not fallen upon one better fitted by age, occupation, and experience for the performance of this duty; or that a personal sense of unfitness had not, on this occasion, constrained me to decline.

With regard to the exhibition about to close, I need speak little. To tell you that it surpasses its predecessors, and has elicited the admiration of the community, is but to say that the mechanics of Philadelphia have displayed the fruits of one more year of labor and of genius; and that this has been appreciated by a discriminating public.

The promotion of the mechanic arts is the object for which this Institute was organized. Its agents in accomplishing that purpose are the stimulus of rivalry excited by annual exhibitions, and its provisions for systematic instruction in the application of science to the arts and manufactures. I have thought, therefore, that a sketch of the progress of the mechanic arts, as fostered, in times past, by these means, would be an appropriate, and, perhaps, not an uninteresting subject.

My principal aim in this will be to show that the present advancement of our arts and manufactures results from, and their future progress is dependant upon, the intimate union of Science with Art.

The world was nearly six thousand years old before philosophy assumed her true position and became the handmaid to the arts. From the time of Socrates down to the middle of the sixteenth century, philosophy despised and neglected art, and art pined and dwindled for want of her aid. Philosophy preferred rather to devote herself to vague and

impracticable theories of moral perfection, to subtle and unmeaning disputations. When she did deign to study natural and physical objects, such study was regarded merely as a mental exercise or diversion.

It is curious to observe to what extent this aversion of philosophy from art was carried under the sway of the lofty intellects of Socrates, Plato, and Seneca. Plato considered geometry as degraded by being applied to any useful purpose. Archytas, who lived about four hundred years before Christ, constructed machines of great ingenuity and considerable power upon mathematical principles, and is even said to have made a mechanical pigeon which could fly. Plato remonstrated with his friend Archytas, telling him that he was degrading a noble intellectual exercise into a low craft, that the true office of geometry was to discipline the mind. From that time all the mechanical arts were considered as unworthy the attention of a philosopher.*

Archimedes far exceeded all other men of ancient times in mechanical ingenuity. He was familiar with the doctrine of specific gravity, and practically applied it in detecting the fraud of King Hieros' jeweller, in debasing the crown. When Marcellus besieged Syracuse, Archimedes, from the walls of that city, raised out of the water and destroyed the hostile galleys, or hurled great stones into and sunk their ships; and by means of mirrors he so concentrated the rays of the sun as to burn the fleets of the enemy at a distance. So highly was this man esteemed for his mechanical construction, that, when Syracuse was taken and sacked, his house alone was ordered by Marcellus to be spared. And yet, such at that time was the disposition of philosophy towards the mechanic arts, that Archimedes expressed himself ashamed of these great works; and it was with difficulty that he could be persuaded to divert his mind to them, from mere speculations and abstractions. He regarded his great mechanical works as trifles, with which a mathematician was permitted only to amuse himself.†

A distinguished writer, in the time of Cicero, once ventured to enumerate among the humble blessings which mankind owed to philosophy, the discovery of the principle of the arch, and the introduction of the use of metals. Seneca regarded this as an *insult* to philosophy, repelled it, and indignantly replied to him that philosophy had nothing to do with teaching men to rear arched roofs over their heads; the true philosopher does not care whether he has an arched roof or any other roof; to impute to a philosopher any share in the invention of a plough, a ship, or a mill, is an insult.‡

Such being the state of ancient philosophy, it is not to be wondered at that, for nearly six thousand years, the mechanic arts, despised and neglected, made but small advances. While Greece and Rome, in poetry, eloquence, statuary, and painting, attained to a degree of perfection unsurpassed in modern times, their mechanic arts remained almost stationary. Homer and Virgil are models for the poets of the present day. Men still revert to the glorious age of Athenian eloquence. The fame of Phidias, the sculptor, and of Apelles, the painter, have survived the shock of time which has destroyed the canvass and crumbled the marble. But

* Plutarch's Life of Marcellus.

† Plutarch's Life of Archimedes and Marcellus.

‡ Seneca's Epistles.

the natural philosophy of Aristotle and Plato vanished before the light of modern science as suddenly as their moral theories did before the blaze of Christianity.

The human mind was misled by this false doctrine of philosophy until the close of the 16th century. It was then forever overthrown and demolished by Bacon. He taught a new doctrine. He exhorted men to consider the true end of knowledge, and not to seek it for the gratification of their minds, or for disputation, or that they may despise others, or for emolument, or for fame or power, or such *low objects*; but for its *intrinsic merits* and the *purposes of life*. "The greatest error of all the rest," he said, "is the mistaking or misplacing the last or furthest end of knowledge, for men have entered into a desire of learning and knowledge; sometimes, upon a natural curiosity and inquisitive appetite; sometimes, for ornament and reputation; sometimes, for victory of art and contradiction; seldom, sincerely to give a true account of their gift of reason to the benefit and use of men. * * * * But it is that which will, indeed, dignify and exalt knowledge, if contemplation and action may be more nearly and straitly conjoined and united together."*

From Bacon, men first learned that science and the arts should walk hand in hand together, and since his day they have so journeyed. The good of mankind, thenceforth, became the aim of Philosophy. Deep was the root which the new doctrine took in the minds of men, and from it has grown the tree of modern science.

Bacon died in 1626. The tumults and troubles of the reign of Charles I., the revolution of 1642, and the disorders which ensued, for a time, delayed the progress of science; but immediately after the restoration, in 1660, it began to advance with rapid strides.

About the year 1660, the Royal Society commenced its operations. This Society was originally founded directly upon the motto and the philosophy of Bacon.† The earliest records we have of its sessions date in the year 1664, and these show that much attention was given by it to the mechanic arts. During the very first year of its existence, one member was directed to bring in an account of iron, from the ore to the bar; another, to inquire into the manufacture of hats; another, into the making of lead; a fourth, delivered a full and elaborate report on the history of the manufacture of cloth, as then in use. Tracts were read on the art of marbling paper, and on the refining of gold. Much of the time of the Society, however, was devoted to researches in agriculture and medicine, which had been also neglected under the old philosophy.

The barbarous state in which science had been left by the Alchemists, greatly embarrassed their early investigations. Many fables and falsehoods had been bound up with a little true knowledge, and a large portion of their time was occupied in investigating subjects which now excite our ridicule when mentioned. Thus, their recorded transactions inform us that on one occasion a member was ordered to provide some fresh hazel-

* Bacon.—"Advancement of Learning," 174.

† The Royal Society was an attempt to reduce to practice Bacon's fiction of the New Atlantis. The influence of Bacon was not limited to England—it extended to France, and eventually throughout the Continent. In 1621 Bacon corresponded with Beranzon, an eminent professor in Savoy, in reference to his project for scientific investigation and discovery. And Des Cartes, who was one of the original founders of the French Association, the basis of the present National Institute of France, shows by his letters to Mersenne, in 1642, that he was familiar with, and entertained the most profound respect for the works of Bacon.

sticks to try the experiment vulgarly called the divining-rod. Another member was subsequently ordered to bring his box of little animals called the death-watch; and at the next meeting, there were accordingly produced before the academy two of these insects for inspection and experiment.

On the 5th of June, the Duke of Buckingham was enrolled a member, and contributed a piece of unicorn's horn. The Society proceeded to try an experiment with it, recorded in the minutes as follows:—"A circle was made with powder of unicorn's horn, and a spider set in the middle of it, but it immediately ran out. The trial being repeated several times, the spider once made some stay on the powder."*

The instrumental collection of the Society appears, during the first year, to have been limited, showing the low state of experimental science at that day. An air-pump, presented by Boyle, a rude microscope, and a loadstone, seem to have comprised their collection. With these, however, they conducted a great variety of experiments. Every thing that was deemed worthy of investigation was either placed under the air-pump or submitted to the microscope. The academy were, nevertheless, proud of their instruments; their experiments were tried with great solemnity, and foreign ambassadors and princes were taken with pomp to see them.†

Two mechanical inventions were before the Academy that year. One was the scheme of an improved engine for carriage, of such a one as goes by one wheel and is drawn by one horse. The society ordered a model made of it, and at the next meeting was produced the modern wheelbarrow made in pasteboard. The second invention was a bow-gun for shooting whales, subsequently abandoned. During the same year, information was received as to the state of one of the arts in the American colonies, then in their infancy. The process reported upon has probably been lost in the lapse of years; it was the art of killing rattlesnakes in Virginia. The outline of this process is thus recorded: "Some leaves of the wild penny-royal were bruised, and these were tied in the cleft of a long stick; this was then held to the nose of the rattlesnake, who, by, turning and wriggling, labored as much as he could to avoid it; but he was killed with it in less than half an hour; and, as was supposed, by the scent thereof."‡

At the same meetings at which these, to us, apparently so trivial subjects were discussed, investigations were presented which resulted in our present form of barometer, in a portion of our present theory of heat and cold, and in improved modes of making lenses. This, too, it will be remembered, was only six years before the immortal Newton, in the 23d year of his age, communicated to the Society his theory of light, and commenced that brilliant career which during sixty years shed such lustre upon their proceedings.

From our present height of science, we can look back and behold these

* Birch's History of the Royal Society, pp. 26, 84, 270, 333.

† Macaulay tells us, that Chief Justice Hale and Lord-keeper Guilford stole a portion of time from their judicial labors, to write treatises on hydrostatics. King Charles spent much time in his laboratory at Whitehall. "It was almost necessary to the character of a fine gentleman to have something to say about air-pumps and telescopes; and even fine ladies, now and then, thought it becoming to affect a taste for science, went in coaches and six to visit the Gresham curiosities, and broke forth into cries of delight at finding that a magnet really attracted a needle, and that a microscope really made a fly look as large as a sparrow." Macaulay, Hist. of England, p. 380. Pepcy's Diary, May 30, 1667.

‡ Transactions Royal Society, No 3, p. 43.

pioneers clearing the plain below, now gradually surmounting the obstacles in their course, now wandering backwards for a space, oft times delayed by the accumulated rubbish of old philosophy, but still steadily advancing, having truth—real, substantial, beneficial truth—for their object, and the omnipotent philosophy of induction for their guiding strength; until in the lapse of time we behold their Gregory, Davy, Wollaston, Cavendish, Brewster, Daniels, Faraday, and their compeers, fixing the utmost verge of earth for their bounds; and Newton and Herschel, the highest heavens for their resting place.

The Royal Society subsequently devoted its attention more especially to the advancement of science, as distinguished, from its application to the useful arts, and there sprung up in London, about a hundred years ago, another society, formed for the purpose of effecting a more direct union of science and art. That society was arranged much upon the same general plan as the Franklin Institute. It had its library, collections of models and machines, distributed premiums for inventions, improvements, and superior workmanship; and for nearly seventy years has published an annual volume of transactions. It was the first society which thus brought home to the practical mechanic the means of intellectual improvement in his profession. By its agency the position of mechanics was elevated in England, and the arts greatly advanced. This society arose at a fortunate era in the history of the Mechanic Arts—the era of the steam engine. At that time James Watt was fifteen years old; fourteen years afterwards he gave to the world his immortal discovery.

And here let me remind you how far he thus contributed, beyond all other men, to the lasting comfort, happiness and glory of his race. In 1769 he converted a simple fire-pump into an engine of boundless power. Nearly a hundred years have elapsed since then, and yet it remains, substantially, unchanged. For eighty years that engine has toiled with the strength of millions of horses, for all men, in every land. Above the wreck of electro-magnetic and hot-air engines, the fame of James Watt, in undiminished splendor, towers proudly eminent. To his genius the hundreds of thousands of our fellow-men in the manufactories of Great Britain, France, and Germany, owe their daily bread; on every navigable river, lake, and sea, on the mountain top and in the deep mine, his engine is working out man's purposes. It has caused towns and cities to spring up and flourish on the barren rocks of New England; it melts, pounds, and rolls the iron of Pennsylvania, and gladdens our ears with the hum of a hundred workshops. It has given to the South a world-wide and insatiable market for its staple; it has filled the Valley of the Mississippi with vigorous life and abundant wealth, carrying its harvests to the East, and bringing back in return the products of manufacture and the rich spoils of commerce. The iron-road, which is but its pathway when it moves upon the earth, binds together the people of our thirty-one States by a tie as strong as our Federal Constitution. To that engine the works of Arkwright, Fulton, Fitch, and Whitney owe the exigency which brought them forth, and the energy which gave them life. Itself the greatest of inventions, it has called forth the highest ingenuity in others. Itself the strongest of mechanical powers, it has rendered available the greatest

human strength. If Bacon gave to science the word of truth, Watt gave to art the arm of power.

Fidelity to my subject would require me to trace the organization of associations similar to the Royal Academy throughout Europe; to narrate how the great Colbert, at the instigation of Louis XIV., founded in 1666 the Academy of France; that Society which, in the words of David Brewster, "has stood unshaken and active amid all the revolutions and convulsions which so long agitated that noble, but distracted country; a common centre of affection, to which antagonistic opinions, rival interests, and dissevered hearts have peacefully converged." It would further be my duty to show how, in rapid succession, there sprung up at St. Petersburg, at Stockholm, at Berlin, Edinburgh, Dublin, Copenhagen, Brussels, and Turin, similar academic bodies, bright towers of science, whose light illumined the whole continent, and was, in time, reflected back by many stately halls reared to industrial art. Passing thence to our own country, and later days, I should call to mind the origin of the American Philosophical Society, and the establishment of our own Institute in 1824; her early struggles, her subsequent prosperity, and how, for thirty years, she has labored strenuously to unite the interests of the professor and the mechanic. The distinguished success achieved by many of her members—by many, whose presence here forbids my further speaking of them—her reported experiments on water wheels, on boiler explosions, on the strength of metals, and others in high repute throughout the scientific world, her large library, her crowded exhibitions, and her able Journal, testify how faithfully she has carried out the purposes for which she was organized.

I fear, however, that this detail would become tedious to you; the encouragement of mechanic arts through the medium of Exhibitions, demands, moreover, a brief attention.

The Marquis d'Aveze was appointed Commissioner of Royal Manufactories in France, in 1797. He found that two years of neglect had reduced the workmen almost to starvation, and he then conceived the idea of converting the Chateau of St. Cloud into a bazaar, for the exhibition and disposal by lottery of the tapestry, china, and carpets, unsold and stored in the warehouses of the principal manufactories. A decree of the Directory, in the same year, however, banished him along with other nobles from France. He was permitted to return in the succeeding year, and then carried out his original plan at the Maison d'Orsay. The project was eminently successful, and attracted the notice of the French Government. That government then erected a Temple of Industry, which was filled with the most beautiful manufactured objects of France. On that occasion the practice of determining the relative merit of contributors and of distributing prizes by committees, originated. This exhibition was so successful that it was determined to repeat it annually.

The troubles of the French nation delayed its repetition until 1801; the third was held in 1802; the fourth in 1806. The wars of France delayed the fifth until 1819. Six others succeeded at intervals of five years, the eleventh exhibition having taken place in 1849, in the Champs Elysée. To their popularity is the origin of the Society of Encouragement to be traced—a society similar to our own, founded about 1804, and which has greatly promoted French art and manufacture.*

* London Art Journal, 1851.

These exhibitions, it will be remembered, were all carried on by the government. The attention of the "British Society of Arts," was directed to the importance of the subject, about 1847, when their first public display was made. The Franklin Institute gave its first exposition of American manufactures in 1824.

Thus, it will be seen that this Institute is entitled to the merit of being the first society in this country, and probably in the world, which, by its own unaided resources, established this great fostering agent of the mechanic arts. Her example has since been followed by societies at New York, Boston, Manchester, Leeds, Dublin, Baltimore, and Washington. Like the associations from which they spring, they are now generally considered as the necessary incident and legitimate exponent of every manufacturing and mechanical community.

It is to the "Society of Arts," of London, whose origin and early history we have already traced, that the world is indebted for an exhibition in which the mechanical industry of all nations was represented. The design of the great fair of 1851, at Hyde Park, was entrusted to a local committee of that Institute, in June, 1845; and, after great exertion, they succeeded, with the aid of Prince Albert and the Royal Commissioners, in completing their work on the 1st of May, 1851. That exhibition was but a development of our own annual expositions; yet, when we regard its extent, magnificence, and results, it cannot but be viewed as the most remarkable event of modern times.

A space of nineteen acres in Hyde Park was enclosed, and covered by a building 1848 feet long by 408 feet wide, and 108 feet high in the centre. The cost of this structure was \$713,900. The value of the articles exhibited was about twelve millions of dollars. Forty nations contributed to the exhibition, and over six millions of people visited it. From Norway, on the North, down to the Cape of Good Hope, on the South; from China, in the East, to Chili, in the West; from Ancient India and Egypt; from Moslem Turkey; from Guinea, on the Coast of Africa; from New Zealand, in the South Pacific; and from the solitary isle of Malta, they were there. *Then*, for the first time, was witnessed the spectacle of ships of war discharged of their armaments, and converted into transports of the mechanic arts. *There*, for the first time in the history of the world, the authorized representatives of thirty nations were assembled on a foreign soil, commissioned on no hostile errand, on no ordinary diplomacy. There, for the first time since the Crusades, were the nations of Europe allied together for a purpose which religion deemed worthy of its sanction.

Surely it seemed that the sword was about to be beaten into the ploughshare, and the art of war to be no longer learned by men. When the Royal Commissioners resigned their commission at the inauguration, the chairman announced the object of their work to be to conduce to the common interests of the human race, by encouraging the arts of peace and industry, and strengthening the bonds of union among the nations of the earth; and to promote a friendly and honorable rivalry in the useful exercise of those faculties which have been conferred by a beneficent Providence for the good and the happiness of mankind.*

Thus we have seen how science and art, united together, have in times

* Official Report of Royal Commissioners, at opening of Hyde Park Fair.

past advanced. Let us turn to the future. A striking lesson which the progress of the arts at the present day teaches us is, the high social position which those engaged in mechanical pursuits are assuming throughout the world. As illustrative of this, I need only refer to the fact that in France, the medals awarded to Frenchmen, at the Hyde Park Exhibition, were distributed by Louis Napoleon in person; and the decoration of the Legion of Honor conferred upon the most successful exhibitors. The Grand Duke of Tuscany has recently, with great pomp and ceremony, established a new order of honor, called the order of "Industry." And aristocratic England has, at length, discovered that it is high time to abolish the distinction between the industrial and the, so called, learned professions. An eminent fellow of the Royal Society lately held this language: "Industry, to which England owes her success among nations, has never been raised to the rank of a profession. For her sons there are no honors, no recognised or social position. The restriction of learned honors to three recognised professions, has a lamentable effect, both on the progress of science and industry. Its consequence is, that each profession becomes glutted with ambitious aspirants, who, finding a greater supply than demand, sink into subordinate positions, becoming soured and disappointed, and, therefore, dangerous to the community. Raise industry to the rank of a profession; give to your Industrial Universities the power of granting degrees involving high social recognition to those who attain them, and you will draw off the excess of those talented men to whom the Church, the Bar, and Medicine, afford only a slender chance of attaining eminence."*

American mechanics, however, need neither legions of honor, orders of industry, or learned titles. The position which they may attain was fixed at an early day. It was fixed when the Philadelphia printer, in 1776, sat with Jefferson and three others to draft the Declaration of Independence; when the same printer signed the treaty of 1778, by which, for the first time, America was recognised as a nation of the earth; when, amid the splendor of the French Court, kings, royal beauties, and learned savans vied with each other in doing homage to the same printer, the conqueror of the forked lightning, our own Franklin. American mechanics know how largely they have contributed to the formation, wealth, and prosperity of this republic; that the want of a government which should protect and render uniform their interests, was a main cause of the adoption of the present constitution; that from that time down to the present, their interests have given rise to our great national questions, our division of parties, and have elicited the highest eloquence of our statesmen. They know that the genius of this government, which recognises no titled distinctions, will accord to the exertions of their right arms, and of their intellects, their full meed of social reward.

Another, no less striking, lesson taught us is the great conflict going on throughout the world for precedence in the mechanic arts; and that those nations which would win the struggle must render science more and more subservient to art—that practice and science must join together in a more solemn union. England was forced to admit that France had

*Tract "On the National importance of studying abstract Science, with a view to the healthy progress of industry, by Lyon Playfair."

beaten her, and on her own soil. Eminent Englishmen conceded that France had surpassed them in the display of mechanic arts at Hyde Park. No sensible man doubts where the cause of France's victory lies. That it lies in her Central College of arts and manufactures, at Paris, in her School of mines, in her Conservatory of arts and manufactures, and in her Industrial Colleges at Ange, at Chalons, and at Aix, where hundreds, nay, thousands, of the most intelligent French youth are annually educated in the practical application of science to the mechanic arts and manufactures.

The nations of Europe have looked to this with deep anxiety, and are rousing themselves to the contest.

England thus speaks by Playfair, one of her Commissioners at the Exhibition of 1851: "All European nations, except England, have recognised the fact that industry must, in future, be supported, not by a competition of local advantages, but by a competition of intellect. Their thinking men have proclaimed it; their Governments have adopted it as a principle of State, and every town has now its schools, in which are taught the scientific principles involved in manufactures; while each metropolis rejoices in an Industrial University, teaching how to use the alphabet of science in reading manufactures aright. Were there any effects observed in the Exhibition from this intellectual training of their industrial populations? The official reserve necessarily imposed upon me as the Commissioner appointed to aid the Queen need exist no longer; and from my personal conviction, I answer without qualification in the affirmative. The result of the Exhibition was one that England may well be startled at. Wherever, and that implies almost every manufacture, science or art was involved as an element of progress, we saw, as an inevitable law, that the nation which most cultivated them was in the ascendant. Our manufacturers were justly astonished at seeing most of the foreign countries rapidly approaching and sometimes excelling us, in manufactures, our own by hereditary and traditional right."*

The illustrious Liebig proclaims from the continent, "that the great desideratum of the present age is practically manifested in the establishment of schools, in which the natural sciences occupy the most prominent place in the course of instruction. From these schools a more vigorous generation will come forth, powerful in understanding, qualified to appreciate and to accomplish all that is truly great, and to bring forth fruits of universal usefulness. Through them the resources, the wealth, and the strength of empires will be incalculably increased."

The venerable Humboldt, with almost inspired authority, thus counsels: "The most superficial glance at the present condition of European States shows that those nations which linger in the race cannot hope to escape the partial diminution, and, perhaps, final annihilation of their resources. It is with nations as with nature, which, according to a happy expression of Goethe, knows no pause in ever increasing movement, development, and production—a curse ever cleaving to standing still.

"Nothing but serious occupation with chemistry and natural and physical science can defend a State from the consequences of competition. Science and information are the joy and the justification of mankind. They form the springs of a nation's wealth, being often, indeed, substitutes for those

* Lecture before the Society of Arts, on results of Exhibition of 1851.

material riches which nature has in many cases distributed with so partial a hand; those nations which remain behind in manufacturing activity, by neglecting the practical application of the mechanical arts and of industrial chemistry, to the transmission, growth, or manufacture of raw materials; those nations, among whom respect for such activity does not pervade all classes, must inevitably fall from any prosperity they may have attained, and this, by so much the more certainly and speedily, as neighboring States instinct with the power of youthful renovation, in which science and the arts of industry operate to lend each other mutual assistance, are seen pressing forward in the race."

In this great struggle between the nations of the earth, what position are American mechanics to assume? Will they scorn these admonitions, and disregard these lessons of experience? Will they not rather call upon science to gird up her loins, and to strike for them in the battle?

In what manner the colleges and schools of our country have been, or may now be, accommodating themselves to this new state of things, it would be presumption in me to say. But I may be excused, perhaps, in addressing a word to the men of my own age, and to younger men, on the facilities afforded by the organization of this Institute to carry out the principles of the great mechanical progress going on around us.

Elementary science, the practical development of scientific principles in organized machines and processes, and prompt information as to the advancement of scientific discovery, here and abroad, constitute the proper basis of study for the formation of mechanical intellect. To provide these, the organization and resources of the Franklin Institute are amply sufficient. Its annual course of lectures on elementary science, by professors of acknowledged ability; its large collection of treatises on theoretical and applied science; its committee meetings of learned professors, of experienced practical mechanics, of engineers skilled in mining and metallurgy, of practical chemists, versed in the processes of the arts; its monthly receipt of the scientific journals of this country and of Europe, and its own monthly journal and review—these are its means of usefulness, and to all these the members of the Institute have free access. If the words of Playfair, Liebig, and Humboldt be true, if our daily experience and if our common sense do not deceive us, a proper use of such means cannot fail to advance the mechanical intellect of our community, and better fit us for the great national conflict, now and hereafter to be witnessed.

To all who are interested in the progress of the arts and manufactures of our country, the eloquent appeal of Sir Humphrey Davy addresses itself with force:

"You have excelled all other people in the products of industry. But why? Because you have assisted industry by science. Do not regard as indifferent what is your true and greatest glory. Except in these respects, in what are you superior to Athens and Rome? Do you carry away from them the palm in literature and the fine arts? Do you not rather glory, and justly, too, in being, in these respects, their imitators? Is it not demonstrated by the nature of your system of public education and by your popular amusements? In what, then, are you their superiors? In everything connected with physical science, with the experimental arts. These are your characteristics. Do not neglect them. You have a Newton,

who is the glory, not only of your own country, but of the human race. You have a Bacon, whose precepts may still be attended to with advantage."

We have a Franklin. He trod the path of Bacon and of Newton; he reached the same pre-eminence. Amid his daily toil as a mechanic, he struggled up the steep ascent of science. The labor of his hands abated not the vigor of his intellect.

Loiter not in the path which these great men have opened, lest you be overtaken and vanquished in the strife. Say, rather, that their precepts shall be attended to, and their example followed.

